JOY IN WORK

HENRI DE MAN

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JOY IN WORK

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HENRI DE MAN

JOY IN WORK

TRANSLATED FROM THE GERMAN

BY

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AUTHOR'S FOREWORD TO THE ENGLISH TRANSLATION

In the years 1924 and 1926 I gave courses of lectures at the Labour College attached to the University of Frankfort-on-the-Main. These lectures discussed workers' psychology. My hearers contributed to the discussion by furnishing, in answer to a detailed questionnaire, written reports concerning their own feelings about their daily work. I thus collected seventy-eight autobiographical reports supplied by wage workers and salaried employees of both sexes in various parts of Germany. The present book originated in a commentary on these reports which was submitted for criticism to the members of the lecture audience.

The condensed reports make up nearly half of *Der Kampf um die Arbeitsfreude* (Diederichs, Jena, 1927). In the English version here presented to the public, I have thought it better to omit them. This is not because I believe they would be wholly devoid of interest for British and American readers; but because I feel that they would perforce be less interesting to persons not intimately acquainted with German conditions, than they may well have been to German readers. Furthermore, my commentary on the reports, which makes up Part Two and Part Three of *Der Kampf um die Arbeitsfreude*, has a validity of its own, independent of the material on which it is based, and is therefore perfectly intelligible without reference to the circumstantial data.

I have, for this reason, left Part Two and Part Three of the original, comprising Parts One and Two of the English version, unchanged, except for certain subordinate passages which presuppose a knowledge of the reports. These passages have either been deleted, or else have been

illustrated by the addition of the relevant statements in the aforesaid reports.

The reader must be good enough to remember that the conclusions of this book are mainly based upon German data, and he must decide for himself how far they are valid for non-German conditions. He will, perhaps, be aided in this connexion by a number of comparisons I make, as the fruit of personal observations in the United States, Belgium, England, France, and elsewhere.

The table printed as an Appendix on p. 223 sets forth (as its practical coincidence with the Table of Contents clearly shows) the fundamentals on which my arguments are based, displaying as it does, in one column the main factors of joy in work, and in the other the chief causes of distaste for work, as exemplified in the reports I have collected.

I should point out that the table must be regarded rather as a catalogue than as a formal exposition of the elements of any particular case. Factors and causes mentioned therein are not found to be active in their entirety in any one of the seventy-eight workers and employees subjected to investigation. The table is a composite statement of the factors of joy in work and the causes of distaste for work that were operative now in one and now in another member of the series.

In all these persons, however, there was a blend of both feelings, no matter whether, in any one of them, joy in work or distaste for work may have preponderated. In other words, in each one of them the mental attitude towards the daily avocation was the expression of both pleasurable and unpleasurable elements, mixed in proportions that varied from person to person in respect alike of kind and of emphasis.

Yet there is a radical difference between the mode of operation of the factors of joy in work and the factors of distaste for work. It would be an error to regard the factors enumerated in the respective halves of the table as merely "favouring" or "hindering"; it would be a mistake to look upon them one and all as concrete and measurable entities, similar in kind, but inducing in one instance a positive and in another a negative "condition". We have to do here with things of a very different nature. In this matter, the comparison with a force that strains towards a goal, and is liable to be intensified, weakened, diverted, or modified, by various circumstantial influences—is more appropriate than the comparison with a pair of scales whose pointer inclines this way or that simply in accordance as the ratio between the weights in the pans varies. In other words, there are not really any factors that favour joy in work. There are only inhibitive factors. The plus element which these inhibitive or negative factors can change into a minus, is there from the outset as a primary datum of the psyche. Every worker aims at joy in work, just as every human being aims at happiness. Joy in work does not demand "furtherance"; all that we can strive to ensure is that it shall not be impeded.

This is far from being a purely speculative distinction. The reports cannot be interpreted on any other hypothesis. We discern, under the heading "impulse to joy in work", a mental tendency which displays itself under the most diversified conditions, and is already manifest as a striving towards a definite goal in the games of childhood, the longings of school days, the ideals of adolescence. We see, on the other hand, something objective, something concrete (the environment, the conditions of life and work, in the form of material equipment and of the extant social order) which in one case may allow this tendency

to have free scope, and in another may frustrate it. We perceive, if you care to phrase the matter thus, a struggle between human beings and their destiny—a destiny embodied in material objects and in other human beings. The will to fight is already there before the destiny has taken shape.

This view is of practical importance, for it enables us to draw optimistic inferences which would be inadmissible were we to regard the problem as one concerning only an adjustment between favourable and unfavourable objective influences. The impulse to joy in work is primarily and naturally present in the normal human being. It is a fundamental datum; whereas the circumstances that permit it to find expression in one case and frustrate it in another are superadded, are present or absent, are of one kind or another, and can be modified by human volition. In this matter, there is a kinship with what happens in the case of life in general, or in the case of health. If a man goes on living, that is not merely because the objective factors that favour his doing so preponderate over those that have an opposite trend. Were this so, life would end whenever fate was unfavourable rather than favourable to its continuance—as under stress of illness, or when destiny frowns. Yet we go on living through and after illness, we do not seek refuge in suicide whenever fate is unkind. The "factors", the objective "influences", are not determinative, for the reason that something exists before them and outside of them, and this something is man's will to live—a will to live that persists through the periods when the environment offers more hindrances than helps. Illness, in like manner, is something other than a struggle between two environmental forces tending to promote "health", or to promote "disease"; it is a struggle between a human being who is "naturally"

healthy (or at any rate has by nature a will to health) and "circumstances" tending to interfere with health.

Obviously, then, the positive factors in the table differ utterly in kind from the negative factors. The primary motives of the impulse to joy in work, numbered 1 to 7, have nothing whatever to do with the technical conditions of work or with the characteristics of the extant social organisation; they are the expression of an autogenous psychic state, the expression of joy in work, or rather of the impulse to joy in work. But this will be made plainer, and will be effectively demonstrated, by an analysis of the separate factors, beginning with that of the constituents of the impulse to joy in work, and passing on to that of the causes of distaste for work.

HENRI DE MAN

FLIMS-WALDHAUS, SWITZERLAND
January, 1929

PART ONE

THE IMPULSE TO JOY IN WORK

CHAPTER ONE

PRIMARY MOTIVES

If we wish to subdivide the impulse to joy in work by referring it to specific psychological varieties of motive, we obtain, as a first result, a number of more or less clearly distinguishable forms of gratification, each associable with a particular form of instinct according as the functional type of voluntary activity may vary. For me, the only value of this classification is that of a working hypothesis. It is not based on any a priori view of psychological systematisation, but has arisen spontaneously, as it were, out of the tabulation (on lines suggested by customary phraseology) of the various motives alluded to in the reports.

These reports contain characteristic examples of the following varieties of instinct, as constituents of a general make-up (varying greatly from individual to individual), which underlies the impulse to joy in work.

1. Instinct of Activity

Inactivity, were it only for physiological reasons, is a torment to a healthy human being. Every muscle is alive with the impulse to activity. The normal form of this activity is: in the child, play; in the adult, bodily work. The fact that, even in the adult, the urge to activity sometimes finds expression in games and sports, shows that there is an impulse to bodily activity in virtue of which movement may be an end in itself. In human beings, however, as a rule, the instinct of activity is something more than a mere urge to the expenditure of bodily energy; it is generally directed towards creation, that is to

say towards the realisation of something which has been imaginatively conceived; in its highest form, it manifests itself as the constructive instinct. Yet there is evidence enough to show that interference with the free expression of the bodily instinct to activity is alone sufficient to induce grave disturbances in the psyche. Beyond question, that is one of the reasons why, in prison life, the system of confinement in separate cells is such a torture. Here the most trifling occupation is welcomed as a relief. One of the reasons why unemployment is so intolerable to the average manual worker is that inactivity speedily becomes a torment as soon as the normal craving for rest and leisure has been satisfied.

2. Instinct of Play

The origin and the function of the instinct of play are still, in many respects, obscure. Without entering into these hotly disputed questions, I may point out that there are certain forms of the instinct of activity which are manifestations of something more than a causally determined expenditure of bodily energy, inasmuch as they presuppose a subjectively conceived aim—and yet do not eventuate in work, since the aim does not include any design to create values. Activity which has no other aim than the gratification of the doer, is termed play; and the instinct which aims at such gratification is termed the instinct of play. An important constituent of the pleasurable feeling induced by play would seem to be the joy the doer experiences in exerting his will, and thus intensifying his sense of self-esteem.

In play, often enough, the aim is free movement that will not effect any change in the material environment, will not modify that environment conformably to a

subjective imaginative picture. When, on the other hand, such modifications are induced, we can continue to speak of play only so long as the creative activity is not determined by any other impulse than that of play, only so long as the activity is not directed towards the generation of economic values. We pass from play to work whenever value or utility becomes the motive of our action. Nevertheless, as every one knows, a great part of joy in play can be retained as joy in work, in so far as the work, independently of its utilitarian aim, is felt to be a form of self-expression, and is the realisation of a subjective aim. The best instance of an activity in which the two kinds of gratification (self-expression, and the creation of value) are combined, is that of the artist—for the artist is one who works and plays at the same time. But all work is art in so far as it is the embodiment of faculty, and thus promotes the self-esteem of the doer.

The close connexion between play and work, and between play, art, and rhythm, explains the extent to which rhythm promotes joy in work. Karl Bücher (*Arbeit und Rhythmus*, eleventh edition, p. 435) points out that rhythm is the link connecting the elements work, play, and art. Pleasure in rhythm is not merely an aid in combating the fatigue that arises out of repetitive work. Furthermore, rhythm gives expression to a positive need, induces an aesthetic or quasi-aesthetic pleasure, as we see in all those varieties of play in which gentle tension and relaxation, moderate alternation of stimulation and repose, succeed one another rhythmically. Imaginative activities aroused by the rhythmical influence of sensory impressions plays an important part in most games; and imaginative activity thus aroused can induce joy in work irrespective of the rhythm or the nature of the working activity.

It follows from these considerations that the rhythmical character of much repetitive work is something more than a quality which serves to make the work "tolerable". There is an impulse to work which resembles the impulse to play. To this matter I shall turn when I come to consider influences and inhibitions in connexion with the appraisement of repetitive work.

3. Constructive Instinct

This is something more than the instinct of activity. It is activity undertaken for the realisation of a mental construction, of a purposive idea; and the gratification it brings is far more mental than bodily. It is not identical with the instinct of play, not even with that special form of the instinct of play in which the constructive instinct is at work. For in play, even when constructive, activity is more important than construction. In the case of the constructive instinct, on the other hand, the idea of the ultimate purpose of the activity is more essential to gratification than the activity itself; the constructive impulse finds satisfaction, and finds satisfaction above all, when the activity (the work) is regarded as a disagreeable means to an agreeable end, and is perhaps felt to be disagreeable. Orderliness and a rational purposiveness of function are therefore by themselves effective constituents of joy in work.

The varieties of the constructive instinct, as disclosed in the reports, may be referred to three types: *a*, creative craftsmanship; *b*, orderly management; *c*, mechanical construction.

The primary historical form of the constructive instinct is that of creative craftsmanship. Its traditional embodiment is the craftsman of the Middle Ages, and the worker

of the pre-machine epoch in general. In this instance, the aim of production, the method of production, and the activity of production, are perfectly unified. Plan and performance are one, and this in a twofold sense; the handicraftsman begins the work in accordance with a plan thought out by himself, and in the course of its execution he modifies and supplements it as his own fancy dictates. The tool is but a prolonged hand, and the hand itself is, as it were, an appendage of the directing brain. We might almost say that the working hand thinks for itself. Every piece of work, regarded from the outlook of the individual will that finds expression in it, is a completed creation; every craft is an art. It is hard to separate from one another the physiological and psychological elements in the pleasure of this activity. The mental element of joy in work is wholly incorporated into the instinctive demand. A typical example of the creative impulse as manifested in a skilled craftsman is supplied by the utterance of the engineer (machinist), case 49.[1] "I am a poor draughtsman; yet with hammer, chisel, and file I am able to work out forms I should find it difficult to draw, but which I feel to be the right ones, to be the ones I have willed."

The two other types (the organising and managing, and the mechanically constructive) arising under the auspices of the division of labour, are varieties in which the plan of the work and the performance of the work are already severed one from another. This implies that in the executor of the work there has occurred a certain severance of the aims of labour from the product. The pleasurably tinged idea of the purposive fulfilment of the work is transferred from its primary and natural object, the

[1] Extracts from the reports are indicated by occupation and case number.

product, to the partial performance and to the instruments of labour associated therewith (especially to the tools and machinery). Thus the joy in work that is rooted in the constructive instinct is divorced from the sphere of the directly instinctive, and is intellectualised; it presupposes an awareness of the rational aim of the work and of the purposiveness of the method by which this aim is to be achieved. Most of my instances of this will be found in the first section of the fourth chapter, which is concerned with "Detail Work".

The variety of the constructive instinct which aims predominantly at organisation and management, the one in which the rationality of the working process brings satisfaction to the doer regardless of the ultimate concrete purpose of the work, is typically embodied in the official. Here, as an extreme type, we have the "bureaucrat", whose sole concern is that, in the performance of his daily round, everything shall be done in accordance with formal rules irrespective of the actual effect on the outside world. The true bureaucrat's unique principle is "do things in an orderly way"—there must be order in the carrying out of rules and regulations, in the use of schedules and ways of writing, and in all conceivable details. Even his desk must be in perfect order before he leaves, with pen, pencil, and ruler, each in its proper place. Orderliness is his supreme demand, though the heavens fall. No doubt this picture is overdrawn, but the official's tendency to make a fetish of organisation and arrangement is characteristic. A typical instance is the naive remark of the man in charge of an urban welfare centre (case 13) who said: "What the screw-vice is for the working engineer, is supplied in my office by the relevant law paragraphs, which enter into my soul, so that a certain harmony is created."

The third type of constructive instinct, the mechanically constructive, is embodied in the worker at the machine, whose joy in work depends upon the purposive functioning of this instrument of labour. Cases of this kind preponderate. Here, too, the product (as a rule, a partial product) is subsidiary, or, rather, is nothing but a quantity. The gratification of the constructive instinct ensues upon the performance of a task whose performance is primarily dependent upon a satisfactory relation between the worker and the machine, viz. upon the worker's capacity for mastering the machine. Only this part of the gratification is directly instinctive. In so far as satisfaction is intensified by a thought of the product, we have to do with something intellectualised, with something which has been conceptually superadded.

In a few specially favourable instances, we discern a more or less harmonious commingling of the three above-described factors or varieties of the constructive instinct. In especial, the creative delight of the craftsman may coalesce with the machine-manager's interest in the productive process. Such a combination is significant in relation to certain possibilities of reintroducing creative joy into the processes of machine production. Examples of this may be found in occupations where, as happens in the case of many working engineers and electro-technicians, considerable intelligence is needed for the right use of machinery, and for maintaining the quality of the product.

4. Instinct of Curiosity

Work results, not only in production, but also in a knowledge of new facts and new causal connexions; it therefore gratifies the instinct of curiosity. In the child,

as most people are aware, the development of the constructive instinct runs parallel with that of the instinct of curiosity; and it is curiosity which sometimes leads to an apparent reversal of the constructive instinct, namely to the deliberate destruction of an article "in order to see what is inside". If, in many of the reports, we find references to the period of apprenticeship as that in which work was more pleasurable, this is partly because the work was then more interesting, that is to say, because the pleasure taken in it was associated with the pleasure of learning, was rooted in the pleasure of acquiring knowledge. The compositor in case 67 tells us that his joy in work became intensified as soon as he was engaged in a large undertaking where he learned new working methods. Workers with a highly developed instinct of curiosity are especially apt to be migratory, even when migration offers them scanty chances of bettering their condition.

When a transition from handicraft to machine work takes place, the loss of the gratification of the instinct of constructive craftsmanship is often compensated by the possibilities the new occupation offers for the gratification of the instinct of curiosity. The machine worker has a much better chance of making inventions than the hand worker, inasmuch as the former has the machine to deal with, and the machine is a more important and complicated object than the hand tool. Moreover, the machine worker is more able and more inclined to let his thoughts roam in the inventive direction.

5. Instinct of Self-Assertion

By this I mean a predisposition towards the feeling of self-esteem; the inclination to promote the occurrence of conditions which increase self-esteem, and to avoid the

occurrence of conditions associated with the lowering of self-esteem. All the other instincts considered in this chapter may be transformed into the instinct of self-assertion when the object of gratification towards which they strive is predominantly identified with the idea of the ego, so that the decisive factor in the gratification has become a valuation of the ego. The report contains instances of the instinct of self-assertion displayed: 1, in relation to colleagues, especially on the ground of higher individual functional capacity; 2, in relation to subordinates or assistants, on the ground of a higher responsibility and a more difficult task; 3, in relation to superiors, as in the case of the joiner (63), who is immoderately delighted because the "old man", so he tells us, "taps me on the shoulder and gives me a word of praise when I have done my work especially well"; 4, in relation to the recorder's own family, as in the case of the municipal gardener (34), who on Sundays loved to take his wife and children for a walk to see "his" beds of flowers, "his" lawns and shrubberies.

There is a widely diffused tendency to associate a high valuation of one's own personality with a high valuation of one's occupation—even when one's ostensible attitude towards this latter is extremely critical. We see this in almost all the reports, where the reporters are inclined to magnify the high qualifications demanded by their particular occupation in comparison with others. In my lectures to workers, I have always noted that even the most orthodox of Marxists, even the man who clings most tenaciously to the dogma that the worker has become a mere "appendage of the machine", is up in arms when any one seems inclined to underrate the degree of skill demanded by his own particular occupation. As far as the majority of workers is concerned, the instinct

of self-assertion is manifested when the worker speaks of his occupation in derogatory terms as far as concerns the claims it makes upon his capacities, individually considered; while at the same time he magnifies its difficulty as contrasted with other occupations. One who has listened to the conversation of workers in public houses knows that, especially when their tongues have been loosened by a little liquor, those who suffer most because their occupation is unskilled are especially prone to vaunt its difficulty. The porter, who has nothing to boast of but his strength, would fain make himself out to be a Hercules. The same instinct of self-assertion which leads the worker to regard his employer as a skinflint who exploits him and underpays him scandalously, will occasionally lead the very same man when among his workmates to boast of the high wages he earns.

6. Possessive Instinct

Workers have a natural tendency to speak of the instruments of labour and of the products of their work as their own. The proverbial butcher is an extreme instance. "His fat, his suet, his kidneys peeping through it." If, in the human make-up, no matter what the type of social order may be, there is a fundamental and general justification for private property—it is this.

The possessive instinct which leads a worker to regard the tools and the machinery he uses, and the product he makes, as his own, is the outcome of a psychological predisposition to which students of religion have given the name of "animism". It is the expression of man's tendency to equip the inanimate objects of his environment with the psychic qualities he himself possesses as a living being.

Animism may be tinged with positive feeling or with negative, according as the subjective attitude towards the object thus imaginatively endowed with a soul is friendly or hostile. The sense of ownership is a special form of the positive animistic feeling. In the language of the new psychology, the psychology of the subconscious, the underlying process is an ego identification; the soul of the object is an imaginary partial projection of the ego. No detailed description of this kind of identification is requisite. Every one is familiar with instances of it, in folk-lore, the history of primitive man, ceremonial institutions (funeral customs, for instance), witchcraft (the destruction of a wax image, and the like), law (a pledge or a signature as a symbol of a change of ownership).

Workers will often rationalize in one way or another this identification of themselves with the objects with which or upon which they work. Utilitarian grounds are the most usual form of this rationalisation. Thus in case 10, the smith rationalises his careful handling of his tools on the ground that he wishes to make them last as long as possible. In case 17 an engineer explains that the machine tools he uses can only be expected to do their work with the requisite precision if they are sedulously cared for. In case 55 the boilermaker says he uses a tool more or less affectionately according as it "facilitates his work". In case 76 an engine-driver complains of his "ignorant workmate", who, on a day when he was off duty, has misused "his" engine. In case 73 an ornamental designer tells us that he "loves" ("I use the word deliberately") good tools and machines "because they work well, because they use up little energy".

One who speaks of his "love" for an inanimate object, shows thereby that he is influenced by something more than utilitarian considerations. How otherwise could we

explain that an engineer (case 44) should say: "Every workman takes the utmost care to see that his tool shall not be injured, although it could be immediately replaced"? How else can we explain that in so many of the reports, the workers speak of being annoyed when others use their tools or machines, or are vexed at having for some other reason to change the instruments of their labour—though it is obvious that not every one can have the "best" tools?

Manifestly we are concerned here with something more than utilitarian considerations. Possessive animism breathes through many of the reports, and it becomes more and more plain as we pass from the comparatively unskilled to the highly skilled occupations.

Let me give some typical instances. In case 2, a platelayer says: "Each of us has his own implements, which he prefers to use, and on which he often scratches his name." In case 8 the machinist says: "I have always taken the utmost care of the machines at which I worked. They rewarded me for this by working well and accurately. When I had to change from one employment to another, or even when I had merely to change from one machine to another in the same works, I was always mournful at parting from my iron companion. I should never have believed that one could come to feel so humanly towards dead material."

Case 20 (upholsterer, subsequently hatmaker): "I have always had a strong sense of proprietorship towards the material implements of labour used by me. This was reasonable enough in my first workshop, an upholstery, for in that trade it is customary for each workman to have his own tools. Here the condition of the tools gives indications as to the capacity of the owner. In my last place, however, a hatmaking establishment, the tools I

used belonged to the firm. There, too, it became plain to me that my mates had a sense of ownership towards the machines at which they were working. This was obvious when, for one reason or another, a man was transferred to a new machine. It might be just as good as the one he had left, but the transference obviously induced a certain distaste for his work."

Case 23 (spinner, occasionally employed as a wagoner): "Carters and lorrymen sometimes become more attached to their horses or to their lorries than they are to their families. In a strike when it was decided that the carters should not feed their horses, I have known them shed tears from sheer love of their beasts."

Case 25 (cooperative worker): "In our concern, every worker has his own tools. Every year, a man is moved to a different floor. Each takes his own tools with him. Each one, too, has his own distinctive marks. We have to use a lot of hand trucks for the moving of sacks and cases; each of us makes a point of sticking to his own implements. If, by chance, one of us is using somebody else's, he hands it over without a word when the 'owner' comes along."

Case 26 (metal borer): "Every one of us has a way of talking of 'my machine'. I was particularly fond of a great drilling machine, and always handled it with the utmost care."

Case 30 (shorthand typist): "I love my machine."

Case 32 (window dresser): "I have always regarded as my own property the things I use in window dressing, and down to this day I am delighted when I have a chance of catching sight of them."

Case 44 (engineer): "At our place every man has a big tool chest of his own, containing all the requisite modern implements. This is supplied by the firm. Every one keeps careful watch over his own tools, although they

might be replaced immediately. A looker-on would suppose that we were working with our own tools. No doubt one becomes accustomed to a particular tool, but in addition there is a certain sense of proprietorship."

Case 49 (engineer): "Although I had no particular interest in the machines, I felt a certain sense of kinship with my tools, especially with those which I had to make myself for the work I had to do. When I had occasion to use tools out of a strange tool chest, I felt as one feels who enters a room full of strangers. An element in this feeling, no doubt, is that one grows accustomed to handling a particular tool in a particular way, so that the slightest change in the weight or length of the implement arouses a disagreeable impression."

Case 50 (machinist in a cigarette factory): "The cigarette-rolling machine has a soul. The machinist must be careful not to put it out of humour."

Case 51 (machinist, repairer of telephonic and telegraphic apparatus): "My work is, as it were, a struggle between man and machine, and it is delightful to feel that one is master of the machine."

Case 52 (engineer): "Tools are often dear companions, and I have frequently felt a liking for my bench when everything was going well, just as, at other times, I have been inclined to curse it. Of course, the bench is a dead thing, but it comes to life under my handling, in virtue of the sensations I feel towards it."

Case 54 (model maker): "I did not like any one else to handle my tools, for I cherished them as if they had been my own property. When I took one up, the feel of the handle told me whether it was my own or my neighbour's."

Case 58 (bricklayer): "Experience has taught me that one's own tool is able, as it were, to draw an

invisible line between the skilled worker and the unskilled."

Case 59 (bricklayers' foreman): "A mason's tools are his pride."

Case 60 (carpenter): "It may seem strange when I say that a carpenter loves his tools. This is not because they are his property, but because his being has been embodied into them. You will find this idea expressed in dozens of craftsmen's songs."

Case 62 (joiner): "As a rule, our employer supplies us with our tools. Nevertheless, one usually acquires a sense of ownership. As long as a tool is fit for use, one is reluctant to let one's mate handle it, even on loan. In the case of the older and more highly skilled workmen, this feeling goes so far, that they would rather throw up their job than accept transference from one bench to another. The machines are looked upon as assistants upon whose shoulders the heavy work is put."

Case 67 (compositor): "As we contemplate our machines, we have sensations varying in accordance with the nature of the machine (typesetting machine, power-driven printing press, rotary press, etc.). A typesetting machine, of one kind or another, with its delicate and complicated mechanism, assumes the aspect of an extraordinarily skilled man, not to say magician, who, by the adroitest of manipulations, conjures something up out of the air. One tries to enter into personal relations with such a machine, to fulfil its wishes, to perform all the preliminaries correctly, and in this way to charm it into maximum production. One might almost be said to flatter and to caress it, for it has its moods. One rejoices in the products of machine production, knowing that, without the machine, one could not have turned them out; and yet one is aware, all the time, that the machine

must accommodate itself to the human will. A printer has the same sort of personal relationship with the other machines, though of a different kind. The oscillating power-driven press, with its to-and-fro movement, does not seem to him so intellectually gifted. He looks upon it rather as an unskilled labourer, as one who mechanically and rhythmically performs any hodman's work entrusted to him. If one has to stop the press for a moment, and to lean forward within reach of its mechanism, one does so with a certain dread of its caprices, with a half-acknowledged fear that some hazard might set the motor at work. Altogether different, again, is the feeling towards a rotary press. That seems more like a fettered titan, angrily performing its task, and gobbling up the paper off the rollers. Its activities are forcibly constrained within the limits imposed upon it by man. In my 'prentice days, I was often filled with aesthetic delight when I stood watching the work of one of these great rotary presses. However much one's attitude towards the different kinds of machine may vary, in all cases alike, we look upon it as a living creature, and want to be on friendly terms with it, were it only in order to master it. There is no sense of hostility towards the machine. Work at it needs so much mental energy, that the sense of one's own work being mechanised passes into the background. Only the subsequent elaboration of the machine product is mechanised and intellectually depreciated."

Case 69 (book printer): "I have found myself saying to the machine: 'You must do what I want'." Again: "Sometimes I have interwoven my own thought into the trembling and the groaning of the machine. Its noise seemed to me to betray repressed wrath, a turmoil of obscure energies, which I was reducing to reluctant obedience. At another time, the humming of the machine,

so I fancied, was the expression of its mirthful delight that I was helping it to overcome its difficulties, to master its pains, so that it could do its work freely."

Case 71 (book printer): "In some of the places where I worked, the machines were badly treated. This was always a grief to me."

Case 73 (ornamental designer): "Bad tools, defective machines, give a good workman the pip. Sometimes, he will get in a rage with them, will fling his tools into the corner, will want to smash a badly working machine. If he is not provided with fresh tools, or if the defective machine is not repaired, he will in the end be content to botch his work. But he will do this moodily, and with a bad grace. A machine that does its work accurately, new files and augers, good pincers, a sharp chisel, are loved because they make the work easier, because they do not necessitate the expenditure of so much energy—I use the word 'loved' deliberately."

Case 76 (engine-driver): "My attitude towards the engine I drive is like the attitude of a man towards a living creature. The phrase, 'Where is my old horse?' which an engine-driver often uses when he comes into the engine-house, bears witness to this. Since every machine has its own peculiarities, each has to be treated individually. When my holiday comes round, I feel extremely uneasy if I know that a mate in whom I have very little confidence is going to take my engine out."

Case 78 (photographic printer): "As a printer, one has complete responsibility for one's machine and one's motor, and one feels that the more carefully one treats them, the more friendly they are. The machine is regarded as the common property of the printer and the feeder."

There are, of course, certain cases in which the worker's attitude towards his tool or his machine is a hostile one;

cases in which the animism is negatively tinged. This applies, for instance, to the case of two miners, who detested the drilling machines with which they worked because of the way in which these shook them, and because of the noise which made them deaf to the dangers of their underground work. A similar case was that of the boilermaker, who, for like reasons, spoke of the pneumatic hammer as a "murder machine". At times, however, detestation of a machine may have purely social causes. Take, for instance, the case of the joiner (63) who says: "One day, polishing machines were introduced. Then an article had to be polished six times over, the first four times with the machine, the last two times by hand. In general, the polishers were opposed to this kind of work, on the ground that the four machine polishings were needless. Yet the innovation did not reduce their earning capacity in any way. Professional vanity underlay the objection; the polisher was unwilling to admit that any of his hand work could be replaced by machine work. No doubt a general sense that his craft was threatened by the introduction of machinery played its part here."

I shall return to the question of the hindrances and inhibitions thus induced, and to the destructive tendencies which are thus originated at times. For the moment, I am only concerned to show that animistic feeling normally leads the worker to adopt a possessive attitude towards the instrument of labour he is using. Even when this animism assumes a negative complexion, even when the machine is regarded as a hostile creature which has to be fought or controlled or conquered, the feeling may often be none the less pleasurable. When this happens, we are often concerned with the will to power as well as with the possessive instinct. Here, too, however, we must presuppose a pleasurable sense of ownership. The idea that a

struggle with the machine is secondary to a sense of a taking possession of it, arises out of a partial identification. It must, in a sense, increase the feeling of mastery, much as a spice increases the succulence of a dish. The very reports which speak of a struggle with the machine, also term the machine an "assistant" or a "servant". Thus in all such cases we have to do with the sense of ownership tinged in varying degrees with the combative instinct or with the will to power.

The primary form of this feeling is the attachment of the worker to his tool. The passages quoted above from the reports show that the handicraftsman's sense of ownership in his tools, a sense dating from an earlier method of production, has been transferred by the modern worker to the machine.

This psychological process runs parallel with technical development. The tool originates in an endeavour to lengthen and perfect the hand. Even in its later development towards machinery, it remains above all, psychologically considered, an appendage of the body, a means for enlarging the domain of personal activity. The movements of the tool are willed by the person who is manipulating it; he instils a soul into the tool. Towards the machine, animism assumes a somewhat more complicated form. The motive power of the machine is something distinct from the will of the worker who is making use of the machine. The central source of that power is symbolic of the anonymity and heterogeneity of the will incorporated into the enterprise. Nevertheless, though the worker does not generate the force that drives the machine, he guides the application of that force. In many instances, he decides when it is to be applied and when it is to be withdrawn; and in any case he determines the labour processes whereby the application of the

central power can be made more or less productive. To this extent, therefore, so far as he himself is concerned, the machine still remains a tool. As a tool, it can be regarded all the more animistically, inasmuch as, in part, it is self-moved.

There are, however, three reasons why this animism may become negatively tinged, why the machine may assume the aspect of a hostile creature.

In the first place, the machine may be regarded as emblematic of the will of the employer. When social causes intensify the conflict between the will of the worker and the will of the employer to a point at which that conflict becomes intolerable, the worker will hate the machine, as he will hate the whole enterprise in which he is engaged. Should the machine itself be regarded as the cause of the social tension (as happens when the introduction of new machine methods threatens the worker with material disadvantage), hostility to the machine will naturally be still more marked. In the machine-breaking riots of the British Luddites, and in those of the Lyons weavers during the early years of the nineteenth century, the destructive impulses of the workers were directed against the machines, not so much because it was easier and less risky to attack the machines than to attack the owner of the machines; but also, and even more, because the machines were animistically regarded as hostile creatures upon whose will the doings of the employers were, in a sense, dependent.

Secondly, when to the man who is minding a machine, that machine appears uncanny because of its great strength or because of the complicated nature of the task it can perform (as with the oscillating press and the rotary press described in case 65), it assumes a threatening, sinister, and hostile aspect, producing an impression like

that aroused in a man who for the first time has to deal with a horse or with an element. In such instances, the negatively tinged animism will only be transformed into positively tinged animism in so far as, and at times when, the worker can control the machine. Then its use will become all the more pleasurable.

A third reason for a negative animism, even in the case of small machines, and of tools, is "the malice of things", the permanent risk of some sudden disturbance in the functioning of the machine, with results ranging from such comparatively trifling matters as an annoying interruption to work or the spoiling of a piece of work to grave danger to life. Here, likewise, especially in cases where the cause lies outside the range of the worker's knowledge, the process may seem to be the manifestation of an alien and hostile will.

As a rule, therefore, there exists a tense relation between the negative and the positive trend of animism—a relation of tension which will only be comprehensible to one who realises how positive animism is rooted in the possessive instinct.

A possessive instinct towards the finished product, though closely akin to the worker's possessive instinct towards tools and machinery, finds expression far less often. Nevertheless, the way in which the worker tends to regard the product of his activities as "his own" is disclosed by his pride when the products are satisfactory, and by his crestfallen attitude when they are not. Thus the weaver in case 35 says: "I used to feel annoyed and ashamed when a piece of cloth turned out by my loom did not look as good as the cloth that was being turned out by my workmates. On the other hand, I was filled with pride when the work of my loom was exceptionally good." A toolmaker (case 27) says: "Each piece of work

I turn out seems part of myself." A smith (case 49), a man endowed with vigorous artistic impulses, says: "How much I had identified myself with the work I turned out, became clear to me whenever I had to hand it over. I felt that it really contained a part of my personality, and I was often on the verge of throwing up my job at the factory and of returning to handicraft. Characteristic of the interest I took in my work was the fact that, when I was working as a builders' smith, and was engaged in the independent making of some novelties that were needed, it was with great reluctance that I stopped working when the eight-hour day came to an end. On these occasions, I should have liked to go on working night and day, whereas when I was doing machine work in the factory eight hours were more than enough for me." I have already referred to case 35, that of the municipal gardener, who on Sundays was so proud when he could take his family for a walk in "his" grounds. Here is a similar characteristic instance, that of a machinist (case 53), who says: "Most of my mates were obviously delighted when they turned out good work. However much the work may be done by machinery, it still carries with it traits derived from the individual worker. A mere notch made with a file retains something of the personality of the worker who used the file. This became especially clear to me in the following instance. At our works we had to turn out in a hurry fifty small metal implements required for a special purpose. They had to be filed by hand, and the boss chose twenty-five of us, each of us to make two of them. Just after they had been finished, and when they were being looked over, an order came for a change in them. They were redistributed among the twenty-five men, and every one of them naturally preferred to rehandle his own work. They sorted them out for

themselves, and no one had any doubt which were his own. The occurrence made it plain to me how individualistically such work is done."

While in these instances the workers speak of their "own" work, and yet never say that they have a "sense of ownership" in regard to the product, the obvious reason is that the extant social system does not give them any means of gratifying such a sense of ownership. When, in the reports, anything is said about the need that the worker should have the full right of disposing of the products of his own labour, reference is always to a socialist programme to be realised at some future day; it is never connected with contemporary personal experience. The instinctive tendency to regard the product of one's own labour as one's own, is so completely inhibited by the conditions of modern factory production with its highly specialised division of labour, that it does not rise into the worker's consciousness—although the possessive instinct (an animistic association with the product), quite as much as the instinct of self-assertion (pride in one's own work), underlies the worker's feeling that the work is "his own". In the conscious, there is no psychological bridge here between the actual working experience and the political demand.

Anyhow, it cannot be denied that at least a rudimentary form of the possessive instinct, at least a rudimentary sense of ownership of the products of labour, is a general factor of the worker's impulse to joy in labour. That is why the worker who is denied this gratification, in the factory, is so apt to seek it in independent work out of working hours. The starved instinct secures gratification in work on an allotment, in work at a domestic carpenter's bench, and so on. Here, beyond dispute, the products are the worker's very own.

7. Combative Instinct

This is a peculiar form of the instinct of self-assertion, in which self-esteem is measured by the power that can be exercised over material objects or over other human beings. In this case gratifications are sought which arise out of the successful overcoming of a resistance or of another's adverse will, out of a victory which intensifies self-esteem. Inasmuch as the will to power has here become an end in itself, the combative instinct may in this respect be identified with the will to power. The combative instinct is directed towards material objects in so far as the resistances encountered in manipulating them are animistically felt to be the expression of a hostile will. Examples of this have already been given in connexion with the account of animistic feeling towards machinery. There reference was made to the joy of the worker in overcoming and mastering the machine.

It need hardly be said that the will to power and delight in the adventurous struggle are much greater sources of satisfaction to employers and works' managers than it is to ordinary workers. I may remark in passing that the leaders of the labour movement, both political and industrial, are apt to be persons in whom the will to power is particularly strong, and has therefore been especially subject to inhibition in ordinary working-class life. The familiar contrast between the moderation of professionalised leaders and the aggressiveness of the rank and file is the outcome of the fact that the will to power of the leaders has found satisfaction in managerial functions, whereas that of the masses has remained frustrate.

CHAPTER TWO

ACCESSORY MOTIVES

1. Herd Instinct

The permanent assembling of a number of persons in one work-place for a joint purpose is one of the conditions requisite for the gratification of that human need for gregarious sympathy which those who regard social psychology from the biological standpoint refer to as the herd instinct—that instinct whose plainest manifestation is the normal human being's disinclination for solitude. A photograph printer (case 78) is a very striking example of this. His work is the retouching of negatives in an extremely complicated three-colour printing process. For this occupation, there are two main requisites. First of all, his colour sense must be in very delicate working order, and this is largely dependent on his being in a "good mood"; and, in the second place, there must be close collaboration with those of his workmates who are working at the same picture. When he was transferred from Munich, his "congenial" birthplace, to the "Prussian" city of Berlin, and, in the latter place, was chilled by his lack of sympathy with his colleagues, this artist worker fell a prey to neurasthenia, by which he was completely unfitted for work during many days. As a counterpart to this, we have the case of the man who begins as an upholsterer, and then becomes a hatmaker (case 20). As upholsterer, he had worked in a small enterprise; as hatmaker, he works in a large one. The new occupation becomes agreeable to him as soon as he has had a political discussion with his workmates in the hatmaking establishment, and finds that he and

they have a community of thought. When I come to speak of the influence of rhythm on joint work or on choral singing, I shall show how this influence is intensified by the working of sympathy.

The accessory and uncertain character of this positive effect of gregariousness is shown by the fact that the social contacts of large-scale enterprise are often felt to be a torment. The Kantian "antagonism of unsocial sociability" is to be detected in the reports. Apart from all the possibilities of friction that arise when so many persons are brought into close contact, possibilities which are intensified when some are chiefs and others are underlings, there are many persons for whom the pleasures of sociability undergo a ready transformation into the torment of enforced promiscuity. In the normal human being, the need for sociability is contraposed by an instinct of privacy, and the predominance of one or the other varies from individual to individual. In factories and in large cities, we find the loneliest of people amid the crowd. Just as there are some who find the barrack a pleasant refuge from the thraldom of family life, so there are others who find work in a large-scale enterprise, where so many are massed under conditions which make them almost anonymous and devoid of personal responsibility, an agreeable relief from the oppressive bonds of ordinary social life. It would, however, be incorrect in such cases to speak of a constituent element of the impulse to joy in work. What happens, rather, is that the human herd instinct is occasionally gratified by association in labour, and that this gratification indirectly promotes a sense of well-being, and thus intensifies joy in work.

2. Love of Mastery and Need for Subordination

As a rule, when many people are engaged in one place upon a joint staff, this implies the establishment of permanent heirarchical relationships. Hence arises the possibility of satisfying two varieties of antagonistic impulse, which are, to some extent, found in all human beings; the love of mastery, and the need for subordination. Here we are concerned with two instinctive predispositions which are rooted in the sex life, and which, when exaggerated, can manifest themselves respectivcly as sadism and masochism. Some psychologists, it will be remembered, classify all human beings along these lines as belonging to virile or sadistic and feminine or masochistic types.

The love of mastery, which may be more or less obviously erotic in its motivations, is a magnified and enduring form of the combative instinct or of the will to power. Under the conditions supplied by the enforced promiscuity and the rigid discipline of large-scale enterprise, a thwarted love of mastery may sometimes manifest itself in an outrageously sadistic form—as teasing, quarrelsomeness, or destructiveness. Not long ago, the executive committee of the German Textile Workers' Union published extracts from the diary of a spinner who was chairman of the Workers' Council in a large Saxon textile factory. This is an impressive document. The brutalities, the abominations, this man reports, positively make the reader's hair stand on end. The record throws a valuable light upon the seamy side of the factory workers' psychology, and upon the perplexing educational and disciplinary duties of the Workers' Council.

The passive complement to authoritarianism, to the

love of mastery, namely the need for subordination, is a less common factor of joy in work. It is more often manifest in women than in men, but is by no means unknown in the latter. Typical are the cases of female employees whose joy in work (unconsciously, as a rule) is dependent upon transferring the relationship towards one or several male superiors to the erotic plane. This, no doubt, is one of the reasons, and perhaps the main reason why working women (especially female clerks and shop assistants, whose personal relation to their superiors in office is a close one) are apt to be more conscientious than their male colleagues in similar circumstances, and to enjoy their work more, Universal in the reports I have received from female office employees are indications of this erotic element in their relations to male superiors—although, it need hardly be said, the woman who makes the report is not always conscious of this element. But a like need for subordination, of course, unconscious, plays part in the pleasure a great many men find in their work. An unconscious masochism is apt to be one of the reasons for the dread of responsibility which I shall have to discuss at a later stage. This other element is always present, even in men animated by a vigorous will to power. There is not an actual or potential leader who does not at times feel the need of being led in his turn. From the outlook of the psychology of the instincts, trade-union organisation signifies a partial transition from the hierarchy of factory discipline to the hierarchy of the discipline characteristic of working-class organisations, where nearly every one is simultaneously leader and led.

This problem in the psychology of the labour movement is a cardinal one. It is profoundly interesting, and leads the investigator into the inmost recesses of the mind. In

what other way can we explain a discrepancy that is (in Germany) so typical of the "class-war fighter", the discrepancy between his intensified aggressiveness against social superiority, and his no less intensified respect for the prestige of this same social superiority? How otherwise can we explain the fact that the German worker, in the domain of working-class organisation, should avow his faith in the most aggressive of class ideologies, but, that when he is engaged in his daily work, he should react, with touching responsiveness, to the most trifling expressions of sympathy on the part of his superiors?

Consider, in this connexion, the utterances regarding a "good chief", to be found later in the book under the caption "Workshop Discipline". That indicates a need to accept a leadership as exercised by persons who only too often show themselves to be incapable of leading. How "un-Marxian", but how thoroughly human and how typically coloured with German sentimentalism, is the emotion with which the joiner in case 63 (an orthodox Marxian) describes the way in which his zeal for work was promoted by a few words of praise from his chief. Read, also, the following remarks which a spinner, the chairman of a Workers' Council, allowed me to publish from a private letter: "I had had to bring a lawsuit against my employers, and the case had actually come into court. I fought like a lion on behalf of the interests of my workmates. I believed that I had been as hard as adamant in this matter. But when I threw up my job here, a kindly word from my employer brought the tears into my eyes. He said: 'Mr. X, we part as friends?' What led him to say this to me? Had I been false to my workmates after all? How can it be explained? In your *Psychology of Socialism*, you quote Charles Lamb as having said: 'I cannot hate a man whom I know'." The solution of this

enigma leads spontaneously to the solution of certain kindred antinomies in proletarian characterology. It explains the sudden transition from stubborn scepticism to naive credulousness in working-class lecture audiences as soon as their mistrust of the lecturer, based on considerations of social prejudice, has been overcome. It explains the contrast between the systematic and often brutally rough criticism of elected working-class leaders (a criticism which is apt to make the lives of these burdensome), and the sentimental devotion which, with rare exceptions, leads to the periodical and practically unchallenged re-election of these same leaders. It explains the scornful rejection of all traditional creeds, in conjunction with the uncritical gratification of the religious sentiment by indulgence in all sorts of "masked religions" which are considered free from "bourgeois" taint. These are all manifestations of one and the same psychological state. The rebels and the malcontents are, really, quite as eager to follow as they are to lead. For the very reason that they have lost their traditional confidence in the leadership of their social superiors, they are affected with an ungratified need for subordination; just as the disillusioned idealist is affected with an unsatisfied need for faith, thanks to which he would rather follow a false prophet than no prophet at all.

The social aggressiveness of the typical proletarian is the outcome of the circumstances of proletarian life. Poverty, exploitation, oppression, have aroused this aggressiveness in him as a weapon he must use in the struggle for existence. Nevertheless, wage slavery has not been able to destroy all humanity in the proletarian. Though thwarted, the human instincts are still present—in proletarian class ideology no less than in the realities of proletarian life. These thwarted needs strive for

gratification all the more strongly because they find no expression in the actualities of proletarian life, and still less in the intellectualist cobwebs of the class-war theory. That is why aggressiveness and the need for subordination, cynicism, and the religious sentiment, scepticism and credulousness, brutality and sentimentalism, are paired characteristics of proletarian mass psychology. These are but diversified psychological defects arising from identical social causes. Not until the reader grasps them, will he be able to understand the social hindrances to joy in work that are dependent upon workshop discipline —a matter to be discussed later.

3. Aesthetic Gratification

It is not easy to draw a line between the satisfaction of the aesthetic sense, and the more elementary feelings of pleasure that arise in connexion with the instinct of activity, the instinct of play, the constructive instinct, and the instinct of curiosity. We must assume, however, that there is an aesthetic sense, independent of the four primary instincts just enumerated; were it otherwise a passive delight in beauty would be impossible. The musician (case 77), who plays a wood-wind instrument in a municipal orchestra, is certainly judging by aesthetic standards when he writes: "During the performance of a classical concert, I am in festal mood. A longing for the beautiful and the good becomes active in me. When especially melodious passages are being played, I would fain close my eyes in order to feel alone. My troubles and cares vanish out of mind. It is very different when we are playing dance music, and when I am looking at ladies in modern dress." Similar remarks apply to the photograph printer (case 78). He writes: "Often I would

positively fall in love with a piece of work I was retouching. I remember, for instance, two African landscapes, full of sea and sunshine; a picture by Cucuel, representing an autumn landscape, by the Ammersee, with a girl in the foreground; and others. This mood was favourable to my work. There would certainly be increased delight in the work, if only good pictures were reproduced. One is instinctively reluctant to take a lot of trouble over commonplace sentimental pictures." Of the same aesthetic nature, presumably, is the pleasure many workers take in a "tidy workshop", in a "fine machine", in "good work", in a "well-run business". At unguarded moments, a worker who is contemplating a successful piece of work will often assume the attitude of a painter or a sculptor, who steps back a little, and, half-closing his eyes, looks with critical enjoyment at what he has just completed. No one who has watched a workman at such a time, can doubt that for the industrial operative, too, aesthetic influences contribute to produce joy in work.

We must note, however, that the degree of aesthetic gratification, in such cases, is not solely dependent on the "beauty" of the product, as judged by the consumer's standard. A feeling of aesthetic pleasure may arise in connexion with any kind of work, in so far as this is one which makes it possible for the worker to show creative initiative in the production of form. A repetitive worker in a china and earthenware factory, who is making objects conventionally classed as artistic, will enjoy less aesthetic pleasure than the bricklayer who is skilfully building a garden wall. We are concerned here with a subjective sentiment, which has psychological standards very different from the aesthetic one in accordance with which a dispassionate observer would judge the products of the work.

Aesthetic, incontestably, in part, is the delight of the gardener (case 35) in the "fine grounds"; that of the smith (case 45) in the gratings and lanterns he forges; consider, too, the mason (case 57) who writes: "I have known masons who loved, during their holiday walks, to take a look at buildings on whose construction they had worked years before, and thus to renew the pleasure with which the work had been done."

The reawakening of the worker's joy in his product, and the transformation of our contemporary pleasure-seeking civilisation into a working civilisation, will certainly prove a means for the bettering of the general taste. The badness of modern taste is partly due to the complete detachment of the "consumer" from the productive process, so that, in a work of art, if the artist has been one to follow the fashion, the "work" is no longer appreciated, the art thereby being degraded to farce.

4. Considerations of Self-Interest

Sometimes, in the reports, rational considerations of private advantage obtrude themselves in the form of an awareness, that, since a worker cannot live without earning wages, his work has a meaning, and is therefore more tolerable.

We note, however, that such considerations almost always appear in a negative form, inasmuch as we see that a feeling that the wages are too low makes the work disagreeable. It must not be inferred from this that considerations of private advantage (in other words, the acquisitive instinct) are factors of joy in work. One who has gone for a long ramble in the wilds without taking enough food with him, will probably find it difficult to enjoy himself, but this does not mean that

the desire to fill his stomach was the primary motive of the excursion.

No doubt under contemporary conditions, the acquisitive instinct, or at any rate, a recognition that the choice lies between work and starvation, is what drives the worker to his work. But it is no less unquestionable, that this motive is not a positive and intrinsic constituent of joy in work. On the contrary, we are entitled to assert that where the acquisitive instinct is predominant there can be no joy in work. The consideration of private advantage is forced upon the worker by extant social conditions. It is foreign to the real aim of the work; it acts as an objective coercion, and therefore exerts a spiritually inhibitive influence. The man who takes the greatest delight in his work is the man who, while he is doing it, is able to forget that he must earn his livelihood. Thought about daily bread, thought about earning, kills joy in work.

This applies, of course, only to normal instances, in which the acquisitive instinct is not congenitally excessive or has not been unduly intensified by unhappy experiences. If, after a long period of unemployment or inadequate earning, a worker secures a job which relieves him of his most serious anxieties regarding a livelihood, this improvement in his circumstances will certainly increase his joy in work. But here there has been nothing more than the removal of an external hindrance. The consideration of private advantage will only be a positive element of joy in work when the person concerned suffers from a congenital or acquired hypertrophy of the acquisitive instinct, so that, like a miser, he subordinates everything to the gratification of that instinct. Since among the workers, in view of their restricted earning possibilities, such a mood is necessarily altogether exceptional, the acquisitive instinct will only show itself in

them within narrow limits, as one of the external elements of pleasurable feeling. As a rule, it is a hindrance rather than a help; it is a motive for work, but it is not a factor of joy in work. Very instructive, in this connexion, is the report of the book printer (case 69) who says that he enjoyed his work more in his apprentice days than he does now, explaining this on the ground that the apprentice gets no wages, whereas a fully equipped printer "thinks of his work in terms of his wages".

5. Considerations of Social Utility

In the reports, we find references to rational considerations of social utility here and there only, as accessory factors of joy in work. When we bear in mind that the writers of the report belong to the more cultivated strata of the working class, and are therefore especially accessible to considerations of the kind, we may infer that, as far as the mass of the workers are concerned, considerations of social utility (or, at any rate, consciousness of the social utility of their work) must be practically inoperative as a factor of joy in work.

Such a consideration is most likely to be influential in cases where the social utility of the work will accrue to a comparatively small community, to one with which, for special reasons, the worker feels himself solidarised. This applies, for instance, to the book printer (case 71) whose joy in work was increased when he transferred to a socialist printing establishment, and felt that henceforward he would be serving the movement. A worker in a cooperative institution (case 25) refers in similar terms to his employment, although here the more favourable working conditions are obviously a main cause of the community feeling. Again, the shorthand-typist (case 18), who worked

for a time in a socialist press bureau, reports that she took more pleasure in her work, and explains this on the ground that the work there was more congenial to her. Even the trade-union employee (case 9), who lays more stress on the agreeable character of his activities than most of his colleagues are wont to do, tells us that his joy in his work was due rather to the satisfaction of his instincts by his particular technical duties, than to an intellectual awareness of their social significance.

The most usual way in which the community sense manifests itself as a factor of joy in work, is what is known as esprit de corps. Thanks to this feeling, when circumstances are favourable (when the occupation is good, when the wages are satisfactory, when the other conditions are to the worker's taste, and when he can take a pride in what he is doing), we find that the individual seems to identify himself with the enterprise, or with a part of it. It is obvious, however, that in such instances, social instincts, such as the herd instinct and the collective instinct of self-assertion, play a greater part than any superadded considerations of social utility. The general rule is that even in the case of the workers who are most alive, mentally speaking, and are most keenly interested in the social problem—just as in the case of their employers—the idea of the social utility of their work is, at the best, nothing more than an accessory intellectual factor. It is never an important instinctive element in the production of joy in work.

Here is a lesson for all those social reformers who rely upon a coming transformation of working motives thanks to the development of new intellectual aims; for the possibilities of such psychological transformations are extremely restricted. As concerns motive, we are dependent upon instinctive impulses, upon what will satisfy the individual

affects and the group affects of mankind; purely rational considerations, motives overcast with the pale hue of thought, are of little avail. This brings us to a problem which is of decisive importance in relation to all plans for the socialisation of industries, though it is one which is apt to be overlooked by those socialist theoreticians who think exclusively in terms of economics or of law. The actual producers' joy in their work, and, consequently, in great measure their effective productivity, will not be so much promoted by any centralist reform of the relations of ownership, as by a local reform of working conditions in respect of workshop technique and in respect of hierarchical workshop organisation. The essential thing is the formation of a new group consciousness within the individual enterprises. The touchstone of the effectiveness of any centralist change in property relations will, therefore, always primarily be the question, how far the change will tend to awaken this group consciousness on democratic lines, by arousing a keener sense of responsibility and by promoting the joys of self-determination. The worker in a bureaucratically controlled State enterprise, makes acquaintance with "reasons of State" only as a form of coercion, which conflicts with a truly spiritual sense of working community; and he feels less joy in his work than does the worker in private capitalist enterprises characterised by more individual freedom and self-determination for the worker—where, in a word, there is more effective industrial democracy. When we come to consider the problem of workshop discipline, we shall see how important a factor of distaste for work this bureaucracy is in the case of the workers, employees, and officials in public enterprises. From this outlook, socialisation from beneath, socialisation on the psychological basis of working solidarity and of a healthy

democratic esprit de corps in the individual enterprise, is far more important than can be any socialisation from above. But the latter is the easier, because the paper on which laws and ordinances are written is more patient than are human beings.

CHAPTER THREE

THE SENSE OF SOCIAL OBLIGATION

A THOROUGH-GOING analysis of the motive of joy in work must take into the reckoning the fact that there are working habits for which rational introspection is unable to find any adequate reason, either in respect of an awareness of social utility, or in respect of a causal explanation in terms of any specific instinct. As William James said, a good many years ago: "Man is a bundle of instincts, modified by habits". It is true that every habit formation presupposes instinctive motives; but the peculiarity of a habit is that, through the frequent repetition of an action, this action encounters less and less inner resistance. Thus the habit, so to say, cuts its own furrow. It does this by severing the actions from their motives and rendering them automatic. Thus do actions become habits, and even needs, for which no other reason can be found than that "it has always been so", and therefore "it is right and proper". If, as in the case of work, the habit formation has been sanctioned for thousands of years by custom, religion, and law, then, in the end, it becomes an ethical norm. When that has happened, the manifold streamlets originating at one time or another from the most various sources of motive, will be found to have coalesced into the slowly flowing stream of "normal feeling" whose existence seems its own justification.

Psychology enlisted in the service of social science must, therefore, primarily content itself with recognising the norm, the standard, the rule, the custom, as a motive in itself, severed from its individual historical factors, whose study is the task of folk-psychology and cultural psychology working in accordance with the historical method.

This latter task is extraordinarily difficult, extraordinarily complicated, and science has scarcely begun to grapple with it. In so far as a history of civilisation can as yet be said to exist (in so far, at any rate, as there exists a history of civilisation based upon the study of collective psychology), it has not dug below the surface of social life. It is true that since, a century and a half ago, critical philosophy broke the spell of the Aristotelian conceptual realism, there have been a number of preliminary attempts at a psychology of thought; it is true, that students of the history of religion and of the history of art are tending more and more to find the root of ethical and aesthetic sentiment in the social subconsciousness: but these works relate only to the vital manifestations of a small and select circle of intellectuals; they are works about intellectuals by intellectuals. They leave almost unconsidered the broad current of mass life; they are scarcely concerned with the far less conspicuous and far more slowly changing daily customs of the millions. For a thousand books on Kant, we have scarcely one dealing with what the common people of Kant's day believed and did, despite the fact that the outstanding achievements of isolated great philosophers are nothing more than symptoms of a hidden mass reality, and do not become intelligible until they are projected against the mass background of their day. For a thousand books discussing socialist ideas, socialist theories, and socialist politics, there is scarcely one dealing with the origin and the transformation of the popular ethical beliefs, which constitute the foundation of all this thought.

For the nonce, as far as the working experiences of the masses are concerned, descriptive social psychology must be content to show that, in addition to all the motives for work analysable (as already shown) into specific

instincts, there is an as yet unanalysable and irreducible complex of motives, which confronts us in the masses' effective belief in the duty to work. Pending further study, the facts in this connexion may be subsumed under the collective concept of the social sense of an obligation to work. This comprises the whole hereditary quantum of motives which (no matter how they may have originated individually, or how much they may have been modified in the course of transmission from generation to generation) from the outlook of the average worker, lead an independent existence as impulses to work and to enjoy working; and whose only motivation is that of every custom, a relation to an accepted standard of mass behaviour.

The mere fact that the standard is valid for the community which constitutes the human environment of the person concerned, suffices to give the impulse towards an adaptation to that standard the higher form of a demand of conscience. This explains the remarkable phenomenon that the sense of a duty to labour can simultaneously be as vague as it is in its rationalist motivation for the individual, and as powerful as it is in its effect upon his emotions. The force of an ethical standard, of a sense of moral obligation (even though it may only arise unconsciously, out of the conviction that a particular line of conduct is customary) may be so powerful, as to overcome, not merely conflicting rational considerations, but even conflicting individual instincts.

Something of this kind was experienced by many of the soldiers in the great war, by persons whose political views and reasoned considerations led them to regard themselves as "forced" into the fight, but who, as a rule, acted in a way that disclosed instinctive impulses overriding all such considerations. Alike in the daily round of

military duties, and when the fight was actually raging, there were both anti-militarists and men whose attitude towards the war was one of indifference, who, instead of doing as little as possible (which would have been accordant with the attitude of their conscious mind), did as much as they could, and even went so far as to offer up their lives in obedience to instinctive impulses of whose true nature they were scarcely aware. In my book on my own war experiences, *The Remaking of a Mind*, Scribners, 1919, I defined the most elementary and most general form of this impulse as "the desire not to disappoint others who expect something of you".

Intellectually, each one of us may have an idea as to his relation towards society and towards the community in which he lives, but his conduct towards society and the community is far from being determined by the intellectual content of that idea. Whenever (as happens to soldiers in war time) we are exposed to the contagious influence of mass passion, and whenever (like the worker at his daily work) we feel ourselves permanently associated with a working community of any kind, what we believe that others expect of us becomes a no less important motive of our actions than are the demands which, as reasoning beings, we make of ourselves. What others expect of us will influence our conduct whether we regard these expectations as rationally justified or no. We shall generally try to fulfil such expectations to a much greater extent than we are actually compelled. Normally—apart, that is to say, from exceptional instances, when both for logical and moral reasons, a man is in revolt against some generally recognised social standard—our instinct of self-assertion is subordinated to the social and moral standards of those among whom we are living, so that we find it impossible to escape the compulsion to act

in such a way that others will not regard us with contempt. A soldier may find few reasons or none in favour of the war in which he is engaged, and he may have the best reasons in the world against participating in it, but he will none the less be loath to act in such a way as will make his fellow soldiers and superior officers look upon him as a coward. In like manner, no worker, however much he may detest the work on which he is engaged, will (altogether apart from considerations of self-interest) want to act in a way that will make his workmates and those set in authority over him regard him as incompetent or lazy. Very few persons are endowed with so vigorous an independence of mind that they are able, in actual practice, to revalue all values in a way that will enable them to disregard those social standards which become operative for us all as universally valid traditions in days before we have begun to think critically as individuals.

It is in accordance with such a traditional standard that the worker comes to look upon his work as a social obligation, at any rate as far as concerns the environment with which he is directly associated in his daily life: those who are dependent on his earnings; his workmates; and those who pay him and direct his activities.

No less traditional than the workers' sense of the social obligation to work, and closely associated therewith, is his sense of social subordination. For thousands of years, those who were less well to do, those who were socially dependent, and those who were politically weak (no matter whether as slaves, as serfs, or as wage workers), were accustomed to look up towards those set in authority over them with the feeling that subordination to the great ones of the earth was a duty, and not a mere obligation imposed by force. The subordinate's critical reason may revolt against the acceptance of this duty; but customary

practice, which gives direction and content to the thousandfold and mainly unconscious actions and attitudes of daily life, will never wholly transcend the fact that the ethic of the communal tie underlies the *contractual* nature of the relation between the worker and the person for whom he works. Every contract implies reciprocal good faith. The normal individual, the ordinary member of the masses, feels that to disregard this tie would be fraudulent, and therefore immoral.

Even were it otherwise, even were the worker's relation to his employer one imposed solely by force, like the soldier's subordination to the army command, it would still carry with it ethical implications, inasmuch as the employer's superiority of power is reinforced by the psychological prestige of social custom, and is often sustained by religious sanctions as well. This prestige works out in a twofold way. First of all, the under-dog regards the position of the top-dog as an enviable one; and therefore the under-dog cannot free his mind from the suggestive influence of the social and moral standards created and observed by the top-dog. Furthermore, since the top-dog (at any rate) regards it as the under-dog's duty to work for him, the under-dog's failure to fulfil his duty satisfactorily, the under-dog's refusal to fulfil the obligation, entered into by accepting the labour contract, implies the evasion of an implicit understanding and therefore bears the stigma of fraud.

The cumulative effect of the social prestige of the ruling class and of the standards of that class—the cumulative effect of tradition on the habits of work and subordination, on the one hand, and the influence of the worker's need to gratify his sense of self-esteem by doing his work well, on the other,—is so powerful that today no anti-capitalist ideology is able to destroy the masses' feeling that for

them work is a matter of social obligation. Conversely, as the example of communist Russia shows, it is no less difficult to influence the traditional habits of work and subordination by political and ideological considerations, to influence them in such a way that the quality and intensity of mass production are notably increased. Beyond question, ideas can affect habits; but ideas can be changed so much more rapidly than habits can be modified, that decades or centuries are requisite before a change in habits can follow upon a change in ideas. Fresh tools, new machinery, different ways of paying wages, changes in the personnel of superiors, will affect working habits far more rapidly than any change in the form of the State, any revolution, can affect them. For practical purposes, the condition of the subconscious, the habits of the masses, and social and ethical standards, are almost constant, as contrasted with the varying ideology of social criticism. If in the world of socio-psychological reality, the capitalist system depended so exclusively upon economic and political compulsion as the Marxists claim, in formulating their sociological speculations and in their theory of the class struggle, it would have collapsed long ago. The masses would not continue to work for the capitalists unless they believed in capitalism, at least in this sense, that they regard the lot of the capitalists as a higher one than their own, as more enviable than their own; and that they look upon their work, not only as a need, but also as a duty. The very socialists among the workers continue to retain so lively a faith in the social and ethical value of work, that when they want to reproach the persons whom they have themselves raised into responsible positions in the labour movement and whose relatively comfortable position they envy, they cannot find any harsher expression of criticism than that these officials

"have become slackers" now that they cease to work for a capitalist employer.

These considerations explain why it is that not even the socialists among the workers have as yet been influenced to a notable extent, either negatively or positively, by the ideology of activity on behalf of social advantage that is propagated by the theoreticians of socialism. In this connexion, "society" is but a pale concept. Only a worker's immediate associates in his work-place or in his trade-union branch, are sufficiently real, sufficiently concrete, to influence him in the direction of habit formation; and in such habit formation, rational considerations are far less effective than vague feelings, than the slow and subconscious transfer of traditional sentiments to new concrete institutions. Between the higher, rationally based considerations of an intellectual élite, and the obscure feeling of the masses in favour of the performance of a duty sanctioned by habit, there does not yet exist any psychological bridge, any sort of inter-connexion which can be expected to have a socially educative influence. This much, at least, is clear: If one wishes to build such a bridge, one must not start from a pillar erected upon the farther bank, upon the bank of a speculative and rationally conceived future. The bridge-building must start from pillars on this side, from pillars whose foundations are established on customs that are centuries old, that are instinctive, and deeply rooted in the strata of feeling. We have no need, here, to seek for new joys in work; it will suffice to free the old joys in work from the bonds which now encumber them, and to make them serviceable to the social aims of a new leadership.

What applies to the socialist rationalisation of the idea of an obligation to work, applies yet more strongly to the ideology of Christian labour ethics. Here, too, "principles"

deliberately inculcated can have an effect only upon exceptional individuals, and but a small effect even on them. As far as the masses are concerned, what operates is the uncritical adoption of a habit which has become a standard. Four of the reports were sent in by students at the Frankfort Labour College, who were members of Christian trade-unions, and ardent Catholics. It is very remarkable how small a part religious faith plays in these reports. Catholicism has scarcely affected the writers' attitude towards individual labour problems.

When we compare the reports from these four Catholics with the others (who are almost all agnostics), we see that in only one of them (case 29, a counting-house clerk) does religious faith play any notable part; and even here, religion scarcely affects the writer's attitude towards his work. Essentially, all we learn is that religion furnishes "consolation" for spiritual troubles—which are precisely identical with those of socialist workers who belong to no Church.

Even more strikingly was this likeness of the mentality of "Christian" and "non-Christian" workers, manifest in the utterances of members of my audience at the Labour College. During the discussions that followed my lectures, I did my best to induce those who belonged to the Christian trade-union movement to formulate their religious philosophy as plainly as possible, expecting that this would have a stimulating influence upon the socialist members of the audience, whose attention I wished to draw to the importance of ethical considerations. But I was invariably disappointed to find that, even among the workers who were professed Christians, the doctrines of the Church (so far as they were known and understood) were little more than a sort of Sunday-go-to-meeting clothes, without any vital bearing on daily experience.

As workers, the Christians felt exactly like the infidel socialists whose material conditions of life they shared. The few among them who had adopted some of the terminology of Thomist and other Catholic doctrines concerning labour and happiness, used these only for the purpose of philosophical and political literary flourishes; and it was obvious that where the questions of practical life were concerned, the doctrines had no influence whatever. When I discussed this matter with a man who is actively engaged in promoting the Catholic education of the working class, he confirmed my impression with the words: "Yes, they are all workers first, and human beings afterwards; their destinies as exploited persons, the destinies they share with other members of their class, mean far more to them than the ties of a general human kinship, such as is preached by the Church."

The conclusion we must draw from this is, first and foremost, that in so far as the Church has thought out and formulated any ethic of labour, this ethic has even less influence upon the working experience of the masses than has the socialist ideology of communal welfare. In so far as the Christian ideology of the obligation to labour has a strong influence, that influence is only indirect and unconscious, and is operative only to the extent to which it is incorporated in traditional habits and institutions. When thus incorporated, moreover, it is effective in virtue of a community of lot which embraces all workers without distinction of creed. As far as the working habits of the masses are concerned, what is decisive is this community of lot, and not a community of ideas, which latter is only effective upon the lives of an inconspicuously small minority. I am not contesting the importance of a community of ideas as promoting every kind of progressive development; but

we must not hesitate to admit that such a community of ideas can only influence general standards of conduct in so far as it becomes institutionally embodied in a community of lot.

Thus our main problem is to discover how the new aims consciously formulated by a small minority can be brought into effect by way of transforming the customary motives of the masses. The answer obviously is that this cannot be achieved by mere propaganda, by simply "preaching" new principles, but only by the active realisation of these principles in institutions and traditions. Whereas, for instance, the new labour code[1] is symbolical of the growing power of a hitherto oppressed class, and is the embodiment of formulas which were originally voiced by a minority of persons who shaped these formulas in a rational way, the subsequent mass process was worked out in accordance with the principle that a new code generates a new sense of right. This may sound extremely undemocratic—for those democrats who have not yet learned that we are talking romanticist fiction when we regard the masses as consisting of absolutely free and equal persons endowed with the power of self-determination. In the opening phase of the struggle for democracy, the phase of agitation and propaganda, this fiction might certainly provide an aim; but it no longer has the value even of a working hypothesis when the time has come for the constructive realisation of democracy. In our days, the establishment of a sound democratic system is dependent on the understanding of the com-

[1] In the original "*das neue Arbeitsrecht*". The reference is not to a Labour Code specifically passing by that name, but to recent laws that deal with collective bargaining, legalise trade-union activities, and provide for the organisation of workers' councils.—TRANSLATORS' NOTE.

plicated psychological laws controlling the interactions between leaders and led, of the demands of the masses and what those who voiced the demands can do to further them, of sentiment and interest, of the ideas of the few that form tradition and of the customs of the many that are formed by tradition.

If I lay so much stress on mooting the problem as to whether it is possible to transform or reawaken the motive to work in connexion with the sense of the duty to work, it is because I am guided by the conviction that the solution of the problem of joy in work depends, in the last resort, upon the diffusion of a new ethic of labour, whose basis must be the idea that work is a debt to the community. Not to mince matters, I contend that the problem of joy in work is insoluble unless the moral duty of work for the common weal is given precedence of every other motive to work. In the absence of this motive the attempt to make work a pure delight would be an attempt to square the circle.

All work is at one and the same time the fulfilment of instinctive wishes, and the inhibition of other wishes that are no less instinctive. Every kind of working activity contains elements which may make it a delight, but it also contains elements which may make it a torment. In every language, the word "work", or its equivalent, contains etymological constituents whose emotional coloration implies the notion of an evil, a vexation, a humiliation. As examples I may mention: the Greek *πόνος* and the Latin *labor* (still alive in the French expressions *homme de peine* for a handy-man, and *laboureur* for a peasant); the Old High German *arabeit*; the Slav *rabota*; the French word *travail* connected with the medieval Latin *tripalium* (carrying with it the idea of work done under compulsion), and also *besogne* derived from

besoin (need). This is not merely a legacy from the days when the social subordination of the worker made work degrading. Just as in the legend of the Fall, work is a symbol for punishment, so it lies in the nature of things that all work is felt to be coercive. Even the worker who is free in the social sense, the peasant or the handicraftsman, feels this compulsion, were it only because, while he is at work, his activities are dominated and determined by the aim of his work, by the idea of a willed or necessary creation. Work inevitably signifies subordination of the worker to remoter aims, felt to be necessary, and therefore involving a renunciation of the freedoms and the enjoyments of the present for the sake of a future advantage. When the aim is voluntarily chosen by the worker, this renunciation is symbolically regarded as a sacrifice; and when the aim is imposed upon the worker by another, it is symbolically regarded as a punishment. Every worker is simultaneously creator and slave. He is the latter, even if he be the happiest of creators, for he is the slave of his own creation. Freedom of creation and compulsion of performance, ruling and being ruled, command and obedience, functioning as subject and functioning as object—these are the poles of a tension which is immanent in the very nature of work.

It is thus psychologically absurd to suppose that work divorced from its social aim can ever be exclusively pleasurable, simply in virtue of the fact that it is the gratification of an instinct. On the contrary, the ultimate and most difficult problem of joy in labour is to ascertain how all the pleasurable feelings that may arise in connexion with work can be intensified and integrated to produce real happiness by being crowned with the greatest of all joys, the joy of fulfilling a duty.

In facing-up to this problem we are not led outside the

domain of motives, which can be analysed psychologically. It is not, indeed, the business of psychology to supply a foundation for ethics; but the recognition that ethical aims and valuations are causes of human behaviour, does not put these aims and valuations beyond the scope of psychological observation. Psychology has nothing to do with the genesis of an aim which determines a sacrifice made for ethical reasons; but such action involves the discharge of particular affects, and this phenomenon can be studied by the customary psychological methods. We then discover that the pleasurable feeling of enhanced self-esteem that accompanies the performance of an action regarded as a moral duty, differs in two important points from the pleasurable feelings that accompany the gratification of ordinary instincts.

First of all, the enhanced sense of self-esteem is not (as is the ordinary social instinct of self-assertion) measured merely in accordance with the scale of values of the concrete human environment; for here the standard of values has the consecration of eschatological transcendency, and is in the truest sense of the word a religious ego ideal. Thus the pleasurable sense of the fulfilment of duty acquires a peculiar qualitative intensity, whereby, in the general view, it wins an absolutely higher rank over all other pleasurable feelings, including the social instinct of self-assertion. There is only one gratification which can raise us to disregard the disapproval of our fellows, and that is the gratification of our own conscience by the fulfilment of a moral duty.

In the second place, the pleasurable feeling attendant on a sacrifice made for moral reasons undergoes spontaneous intensification proportionally with the recognition of the magnitude of the sacrifice. It feeds, so to say, on the unpleasurable feelings that are induced by the need

for inhibiting certain "lower" instincts. Thanks to the alert consciousness of an aim, a consciousness which is a necessary part of every decision which we regard as a moral choice, the unpleasurable bodily or other elementary sensations are transmuted into the idea of a sacrifice whereby the value of the action can be estimated, and the pleasure in our victory become intensified by suggestion. Thus, thanks to the qualitative difference in virtue of which the pleasurable feeling that accompanies moral activity stands on an altogether higher plane than the pleasurable feeling of a purely instinctive gratification, a miracle takes place. Pain is transmuted into pleasure, sorrow is transformed to joy, and simultaneously the intensity of the feeling grows.

Of course all this applies only to extreme instances (very rare in daily life) of deliberate and fully conscious moral choice. Nevertheless, in daily life there is a persistent, a customary, conflict between certain instinctive promptings on the one hand and a certain moral habit on the other. In this connexion phenomena occur which are like in kind, though less extreme in degree. Such a moral habit is the masses' obscure sense of the duty to work. Here, likewise, it is psychologically possible to solve every conflict of motive that manifests itself as a struggle between joy in work and distaste for work, by strengthening the subjective motive of duty so that joy in work gets the upper hand. In like manner, all distaste for work that is the outcome of bodily suffering and of instinctive inhibition can be transmuted into the higher form of joy in work when the work comes to be regarded as the fulfilment of duty bringing happiness in its train.

We are naturally led to ask why, if these things be so, we should trouble to investigate the instinctive foundations of joy in work. Would it not be better to renounce from

the first any attempt to make work easier and more agreeable, and to concentrate upon developing, by the moral coercion of education, and in case of need by the institutional coercion of social authority, the psychological mechanism thanks to which every one would, without qualification, regard work as his duty?

The question is of the first importance. It must not be dismissed as having purely academic interest, for its underlying purpose does actually guide a considerable proportion of the attempts made by employers to increase the intensity of labour. The ill success of endeavours to use the "coercive force of education" to promote this end, may well, however, give us pause to think before answering the question in the affirmative.

In the first place we must remember that everything said about a connexion between joy in work and a sense of the duty to work, stands or falls with the existence of a subjective belief in the ethical character of the demand that we should work for the community. This is a faith which cannot be inculcated by force. Among the workers, it is far less widely prevalent today than it was in the pre-capitalist era. There are objective reasons for the change. In the pre-capitalist era, it was easier for the actual producer to believe that he was working for the community (or, as it was often phrased, for the greater glory of God). There was then a comparatively small severance between producers and consumers; and, more important still, the free producer was technically and socially independent: hence the community had a readily perceptible reality. Today, on the other hand, the worker produces for the "world market", and this, from the outlook of the motive for production, is nothing more than a vague general formula for the acquisitive instinct of an anonymous, soulless, and irresponsible

capitalist power. From his own outlook, the industrial worker no longer works for the greater glory of God and for the service of the community, but to escape the lash of hunger and to create dividends for a joint-stock company.

Of course, I am not writing here about the conceptual community, or about communities whose needs might be philosophically regarded as furnishing an aim for production. It is easy enough for political economists to prove that "humanity", "society", the "world market", cannot exist unless work is done on their behalf. But it is a far cry from the acceptance of such a principle to the practical inference that the individual worker X. or Y. ought therefore, as a matter of duty, to work harder and longer than is absolutely requisite for the satisfaction of his own immediate needs and wishes. The very fact that the existence of such communities must remain a matter of preliminary logical demonstration, suffices to show that they are too remote from the daily experience of the individual to be able to function as the goal of his instinctive and customary activities. The notion of the common welfare of mankind may have been plain enough and near enough to the theoreticians of natural philosophy, to the economists of the Manchester school, to the enthusiasts of utopian socialism; but it cannot be classed among the realities with which the industrial worker under capitalism comes into contact in the course of his daily life.

Political zeal, the religious injunction to love one's neighbour as oneself, humanitarian sympathy with victims of some mass disaster, will only in rare instances expand the average man's horizon to a world-wide visual angle. The hard economic experiences of daily life exercise an inevitably narrowing influence. The realities of the world market can do little to promote the conviction that we are all members of a universal brotherhood.

The worker's lot makes him more familiar with crises of over-production and with the cut-throat competition of rival world empires, than with the vaunted solidarity of all producers and consumers.

The greatest communities within the mental grasp of the average contemporary man are those of religion and nationality. As regards the Church, however, there are no obvious economic facts to corroborate its claim to Catholicity, to universal influence. Only the State, as the embodiment of the nation, is live enough, and near enough to everyday life, to arouse complexes of feeling and passion sufficiently powerful to influence habits of life and work. The extraordinary intensification of national sentiment among the masses of the population at the very time when the world market had become established, and when international intercourse had assumed such extensive proportions, has other reasons besides the obvious political and economic ones. The ultimate explanation is psychological. The development of the capitalist system has destroyed the old communal ties; has made an end of local patriotism, rural neighbourliness, the organised estates of the realm, the guilds, etc. The disappearance of these has left a vacancy, an aching need for compensation; and in 1914 the unfulfilled emotion found explosive outlets in a frenzy of national sentiment. The new social ties which the workers had created in the shape of their political and industrial organisations were still too young, too void of tradition, too anaemic, too markedly wanting the support of general ethical sentiment, to cope with the violent discharge of the inhibited herd instinct in the field of nationalism. Bowing before the storm, the leaders of the working-class organisations accepted the incorporation of these into the machinery of the State, or subordination to the State.

The old-established coercive community of the State, figuring as protectress of the lives and properties of all, and, with the aid of the traditional symbols of militarism, becoming the embodiment of the collective instinct of self-assertion, gained the victory over the new voluntary community of the working-class party, which had not as yet rooted itself so deeply in the soil of the herd instinct.

Thus in all the countries that took part in the world war, the idea of national interest has been the most comprehensive one to which protagonists of a voluntary intensification of production could appeal. We may doubt whether, during the post-war period, the result of such appeals has, even in Germany, been at all comparable to the result of working-class patriotism while the war was in progress. This much is certain, that in trade-union ideology since the war the promotion of national welfare has come to play a much greater part than before—but we have good reason to ask ourselves whether this may not be a temporary phenomenon expressing the views of the leaders, rather than the manifestation of changed motives animating the working masses under the stress of experience. Besides, the passions of the war epoch are still too fresh, and the groupings of interest in the post-war period are presumably too transient, for it to be likely that the national community will prove in the end to be the community for whose sake the masses may be willing to work as a moral duty.

The new "official" trade-union ideology notwithstanding, there are plenty of indications that scepticism is spreading among the masses, at any rate in Germany. During the war, side by side with nationalist passions, there occurred a spread of intensified feelings of social resentment, owing to the growth of the conviction that the working class was having to bear more than its fair

share of the sacrifices and burdens. As the outcome of the war, the State has more than ever assumed the aspect of an oppressive and coercive organism which is rather to be dreaded than to be loved, and whose bureaucratic tendencies make it seem increasingly uncongenial to ordinary folk. Even the average State official is less ready than he used to be to toil and moil on behalf of the State. Since the slogan "produce more" is voiced mainly by employers whose private interests are obviously nearer to their hearts than the national welfare in whose name they issue their appeals, it is natural that the workers should regard the unselfishness of such zeal for the community as open to question.

The contemporary worker, then, has practically no concrete reason for feeling that, in his case, work is a duty he owes to the community. Almost as effectively in the worker as in the capitalist, has a system of production for profit undermined the motive of production for the common weal. In the mouths of those who reap the advantages of this system, talk about the "community" is mere sermon-stuff for use on Sundays, mere flat-catching phraseology; the daily driving force of the actions of persons who utter such phrases is the desire to put money in their pockets. The inference is clear. The first requisite for the growth of a new community sense, is that there should be a new community. No eagerness for work, until there is a working community; no working community, until there is a community of wills and interests; no community of wills, until all have an equal say in the matter; and no community of interests, until all have a right to share in the fruit of production.

Yet this new institutional community, whose genesis has actually begun, can only arise through the operation of a will which issues out of community feeling. Now,

community feeling exists independently of extant institutions, as a natural impulse of the moral human being, for it has come down to us in a specific historical form as a cultural heritage from the pre-capitalist era of Christian Europe. In a minority of persons, it crystallises into institutional aims and demands. Only in a minority is the moral predisposition strong enough, as yet, to generate a higher joy in work out of a social sense of duty, notwithstanding the elementary inhibitions of socially caused distaste for work. This minority consists of those who, in the communityless world of today, either continue to live psychologically in the community of yesterday, or scent the morning air of the community of tomorrow; on the one hand, persons guided by religious tradition, who unconsciously continue to obey customary rules of work and subordination; and, on the other hand, socialists, whose activities are consciously directed towards a new communal goal. Those who comprise the former part of this minority are gradually diminishing in number, while those who constitute the latter part of it are gradually increasing.

In fine, however (and this is the salient point), we are for the nonce concerned only with a minority, which may point the way for the masses, but does not typify the present-day masses. When we are considering the masses, we must take into account the realities of mass psychology no less than the possibilities of individual psychology. In each individual it is possible that the sense of duty to work may be intensified to the pitch of joy in work regardless of technical and social obstacles. But in the realities of mass life, these obstacles are so formidable that they cannot be overcome without more vigorous ethical motives than are at the disposal of the average man. Just as our experiences of pleasure and

happiness can be graded, so, as a matter of psychological actuality, can we grade human beings according to the aptitude or the power which they respectively possess for the enjoyment of varying kinds of pleasure or happiness. There are Don Quixotes and Sancho Panzas; Uylenspiegels and Lamme Goedzaks; bohemians and philistines; leaders and led; genuises and—normal human beings. Normal human beings only find access to higher pleasures when they have had enough of lower ones. Besides, ecstasy is not an every-day enjoyment; and the ecstasy of sacrifice on behalf of an ethical obligation is something better fitted to help us to endure an hour on the rack, than to enable us to bear up against the weariness and the depression of the daily round of toil. If we wish to make it possible for the masses to enjoy the higher pleasure induced by work that is done for the fulfilment of duty, there is only one way of doing this. We must first secure for them the maximum amount of ordinary joy in work, or at the very least we must see to it that they are not debarred from such ordinary joy more than is absolutely essential in the interests of the community.

The wearing of a crown of thorns can, indeed, be a joy; or, rather, a happiness. But is that a reason why we should wish others such a happiness, or should refuse to relieve them from a suffering which they find intolerable? Not even one who himself wears a crown of thorns has any such right—to say nothing of one who lies on a bed of roses. Agreed that no happiness can be greater than that of one who enjoys the ecstasy of sacrifice, of one who has learned that out of suffering cometh joy. But one who is to have this experience, must be powerful enough for it; he and none other can show that he possesses this power, and he must gain it by a voluntary act. We may demand it of ourselves, but we have no right to

demand it of another. One who would demand it of another, lays himself open to the suspicion that he would rather see others suffer than suffer himself.

Before we wish others to taste the pain-fraught joys which can only be joyful to those who have spontaneously sought them out, we should try to facilitate access to those joys which are accessible to all. Especially should we do this if we are among the fortunate persons who are in a position to enjoy these more elementary pleasures. Before one of my readers ventures to preach morality and duty as a means for overcoming the industrial worker's distaste for work, it would be well if such a reader were to make himself personally acquainted with the suffering he is so lightheartedly willing to counsel others to bear—the "ordinary" frustration of the "elementary" instincts which I am now about to discuss. Or are we to suppose that the "spiritually minded" man, for the simple reason that he is acquainted with higher happiness, need not concern himself about the "paltry" troubles of the millions, for whom every struggle for happiness is primarily a struggle for bread? Who is entitled to speak in such a way, as long as he owes his own happiness to the labour of these same millions, without whom he himself would be but a human beast, naked, cold, hungry, a prey to all the basest material cares?

PART II

THE HINDRANCES TO AND INHIBITIONS OF JOY IN WORK

CHAPTER FOUR

TECHNICAL HINDRANCES AND INHIBITIONS

In accordance with variations in the concrete causes, the hindrances to and inhibitions of joy in work can be subdivided into three main groups: (1) Technical hindrances and inhibitions arising out of the nature of the work or that of the material equipment requisite for its performance; (2) intra-occupational social hindrances and inhibitions; and (3) extra-occupational social hindrances and inhibitions. The hindrances and inhibitions in groups (2) and (3) are independent of the technical character of the work, and are directly referable to the human environment.

The present chapter deals with the technical hindrances and inhibitions, of which four kinds are mentioned in the reports: detail work (see note on page 224); repetitive work; fatigue; unfavourable technical conditions.

Detail Work

When restriction to detail work, as necessitated by the division of labour, is a cause of the inhibition of joy in work, it is usually because the work is felt to be "unmeaning". This does not, of course, signify that the work is regarded as unmeaning in relation to the final aim of producing utilities, but that it is unmeaning to the worker, inasmuch as the particular operations he has to carry out have, for his sensual perception, no bearing upon this final aim.

Contrast with this, the work of the handicraftsman, the typical industrial producer of the Middle Ages. He worked up raw material into a finished product, and in many

instances he came into personal touch with the consumer. Each stage of his manipulations had for him a "meaning" directly related to the final aim of the process, had a definite bearing upon the creation of a utility.

It is obvious that with advance in the division of labour, and an increase in the extent to which work becomes detail work, this relation to the final aim becomes obscured, and therefore tends to lose "meaning". Yet however highly specialised the division of labour, detail work can never become wholly unmeaning. Even when the worker has completely lost sight of the interconnexions of the process as a whole, there will still remain a certain amount of meaning in the detail process on which he is engaged. In none of the reports do we find a complaint that the work has become absolutely unmeaning. The normal instinct of self-assertion (or, to use another term, the ordinary feeling of self-esteem) inevitably leads the worker to try to assign a meaning to his work. In prisons, in the bad old days, a common penal task was to make a prisoner transfer a large quantity of sand from one place to another, and then bring it back again. Why was this punishment felt to be so unendurable? Because, at any rate in the sufferer's subconscious, there ensued a conflict between his impulse to find a meaning for his activities and the obvious fact that his task could fulfil no useful purpose whatever—a conflict which threatened to deprive him of the last vestiges of self-esteem.

Thus, thanks to an inward psychological compulsion, when the division of labour tends to deprive a task of its meaning, the worker endeavours to instil a new meaning into it. In this endeavour, he can always count upon a certain measure of success. The partial

product is still a product, but instead of going to a consumer it is passed on to another worker, for further elaboration. Every product can be produced better or worse. The turner who shows his skill in the way he has done his bit towards finishing a difficult piece of machinery, can enjoy a gratification akin to that which the handicraftsman of old days enjoyed when he had made a completely finished product. If he does not always enjoy this gratification, the reason for the failure must obviously be sought elsewhere than in the technique of the operation. With a given technical basis, the feeling of joy in the doing of good work may be present in varying degrees or may be completely annulled and replaced by distaste for work, according as the work be repetitive or not, according as wages and working conditions vary, according as workshop discipline be onerous or not.

In case 40, we have a bootmaker who has in his time made boots and shoes, by hand, as a whole, but is now "a decayed handicraftsman", reduced to the cutting of uppers in a boot factory. We find, however, that he is just as proud of a well-cut upper as he was in former days of a well-made boot. True, this could hardly be so if the cutting of uppers were a much easier task than the other detail processes of bootmaking, if it were one making far less important demands upon the technical capacity of the worker. A joiner who has hitherto been accustomed as a handicraftsman to make complete objects at his own bench, and is subsequently forced by circumstances to accept a job at a factory where he becomes nothing more than the minder of a woodworking machine, feels this detail work to be less significant than his previous occupation, and he is therefore prone, for purely technical reasons, to be mortified

in his self-esteem. On the other hand, the man who as a builder (case 58) has to specialise on the lath work of ceilings, enjoys his work at least as much as builders whose occupation is comparatively unspecialised, for his speciality ranks as a highly skilled one. Again, the compositor (case 67) who specialises in the setting of tables, finds his work quite as significant as that of his mate whose work is more generalised.

Broadly speaking, therefore detail work or specialised work, as contrasted with generalised work, will only be felt to be inhibitive of joy in work in so far as it demands less technical skill. From the outlook of the individual worker, a feeling that the task on which he is now engaged is comparatively unworthy of appreciation is always relative to the higher or lower prestige of the task he has previously performed. A skilled engineer who, in a big machine shop, has hitherto been entrusted with difficult repairing jobs, and is now restricted to turning out standardised taps at a lathe, will regard his new work as comparatively unmeaning; whereas a man whose job had hitherto been that of floor cleaner at the same works would feel like a demigod if he were promoted to the lathe.

From the sociological standpoint, therefore, the solution of the problem concerning the effect of detail work upon the mind of the worker, depends upon the answers to two preliminary questions of a more or less statistical nature. First of all we have to ask whether, within a particular period of time, the new tasks generated by the progressive division of labour are more difficult or easier than the old ones were, and what is the numerical ratio between the instances of increased skill and the instances of diminished skill now demanded. Secondly we have to enquire in each industry as to the ratio between the

number of workers who in the course of their working life have been degraded to a lower degree of skill by the increasing division of labour, and the number of those who (conversely) have, in virtue of the same process, come to regard themselves as doing comparatively skilled work.

Recorded experiences in this respect vary so widely that we must guard against an attempt to answer such questions in accordance with preconceived opinion. The hasty generalisations of the classical political economists and those of Marxian economics (based in this respect upon classical economics) in the early days of large-scale capitalism, are still responsible for many premature judgments, which will not stand the test of objective criticism. From limited experience garnered in the beginning of particular industries, especially the power-driven textile industry, far too general conclusions were drawn to the effect that the progressive division of labour would necessarily result in all industrial labour becoming increasingly unskilled. In the *Communist Manifesto*, penned by Marx and Engels in the winter of 1847–1848, we read: "The labourer has become a mere appendage to a machine; a person from whom nothing but the simplest, the most monotonous, and the most easily learned manipulations are expected." This assertion still serves as the foundation for theories that are very widely diffused, and not among the workers alone. Unquestionably, there are large strata of the working class to which it applies as fully as it did when it was written. But there are other strata to which the technical developments of the last eighty years have made it completely inapplicable, so that of them the very reverse is true.

The reports show that joy in work increases with an increase in the skill requisite for the occupation. Of the

unskilled workers who reported to me, only eleven per cent say that joy in work predominates over distaste for work; of the semi-skilled workers, forty-four per cent tell us this; and of the skilled workers, sixty-seven per cent. There may be nothing for surprise; and yet pride in their own skill, which breathes through the reports of all the skilled workers, is amazingly strong. This conflicts with the assertion of the *Communist Manifesto*, and it is worthy of attention for two reasons in especial: first of all, because most of the writers of the reports are Marxian socialists, and yet seem quite unruffled by the contradiction between personal experience and Marxian theory; and, secondly, because most of these highly skilled occupations have become skilled thanks to the increasing division of labour in machine production! Among the writers of the reports, handicraftsmen in the old sense of the terms (builders, carpenters, and the like) form only a small minority. Nor are the handicraftsmen among them workers from whom exceptional skill is demanded. The machinist in a cigarette factory (case 50), although he has to perform detail work, certainly needs for this quite as much intelligence as does the quarryman (case 37) whose occupation ranks as skilled, but who has so little adaptability that, as he himself confesses, he was "not up to it" on one occasion when he was called upon to stoke a locomotive in the quarry. It cannot be supposed that the work of builders and carpenters is more significant, more valuable, or more highly skilled than that of the writers of many of the other reports, who worked at machines—the minders of rotary presses, lithographic printers, engine-drivers, electro-technicians, etc.

Manifestly, when we are considering such cases (and work at a machine in general), we must not take medieval handicraftsmen as our standard of comparison. Com-

parisons between two widely separated historical periods are, of course, extremely instructive and important. They are, however, inadequate when our purpose is to investigate the actual facts of contemporary sociological and socio-psychological evolution. Industrialisation today means only to a very small extent what it meant (in large measure) when the first power-driven spinning wheels and looms were established—the transference of skilled handicraftsmen to the factory as a place where unskilled workers were assembled. In the great majority of instances, the modern industrial worker begins his career as an industrial worker, and is indeed usually the son of an industrial worker. A transition from handicraft to factory work has become altogether exceptional, were it only for the reason that those of the old handicrafts capable of being ousted by factories and machine production have for the most part been destroyed long since. Among the seventy-eight reports, there are at most ten or eleven which come from workers who can technically be described as handicraftsmen. These are persons engaged in occupations in which there are natural limits to mechanisation, or in which mechanisation proceeds so slowly that changes are scarcely to be expected within the lifetime of an individual (bricklayer, carpenter, gardener, stonemason). Furthermore, where among the handicrafts of the pre-machine epoch can we find any counterpart to the engine-driver, the electro-technician, the minder of a cigarette-making machine, the linotype operator, the photographic printer, the minder of a rotary press? Can we say that the shorthand-typist has developed out of the medieval scrivener; or that the modern mechanic who tests telephonic apparatus has developed out of the stage coach driver of the old time system of communication?

The modern skilled metalworker, may, from the outlook of a sociological classification, be regarded as the most typical industrial worker of our time. Why should such a man as this, who began to learn some detailed occupation when he was only fourteen years old, compare his lot with that of a medieval smith, or with that of an extant village blacksmith, with whom his occupation does not bring him into touch in any way? Where can we find a common standard for the measurement of the skill of the respective occupations? In the duration of the period of apprenticeship or training? We have to remember that a modern skilled mechanic often learns more in his four years of training than a medieval tailor's or baker's apprentice learned in seven; and the mechanic uses knowledge acquired during many years of attendance at the elementary school and the technical school, which did not exist for the medieval apprentice. Is the difficulty of the occupation to decide? It would be hard to prove that the craftsmanship of a wheelwright in former days required more skill than does the "mechanised" occupation of an engine-driver; and, indeed, the faculties exercised in the respective cases differ so widely in kind that a quantitative comparison is hardly possible. Is it a matter of general intellectual capacity? The machinist certainly requires quite as much as the village blacksmith. The demand made upon physical strength? The calls made upon a riveter in this respect are certainly greater than those made upon a tailor. The amount of knowledge? The electro-technician needs different sorts of knowledge than those that were needed by the potter of Middle Ages, but we certainly cannot say that the electro-technician needs to know less.

These considerations show that we are not entitled to say without qualification that division of labour under

the system of machine production leads to the generalisation of unskilled work. In some occupations, mechanisation has this effect, in others it operates in the reverse direction. Machinery can generate skilled workers, just as it can generate unskilled workers. The existence of detail work, therefore, is not of a necessary cause of distaste for work. Whether it is or is not this, varies from one case to another, in a way which will subsequently be discussed.

Repetitive Work

The tenor of the previous section will, I think, have already made it clear to the reader why, among the technical obstacles to joy in work, I have not (as is usually done in such enumerations) placed the catchword "mechanisation" in the foreground. I content myself with referring to specific accompaniments of mechanisation, such as detail work and repetitive work. The mechanisation of labour is far too generalised a concept to be included without qualification in any analytical systematisation of the causes of joy in work or distaste for work. Among the consequences of mechanisation, there are certain phenomena which must be regarded as directly favourable to joy in work; for instance, the lessening of bodily fatigue, the sense of mastery over a complicated machine, etc. In the case of the majority of workers, however, most of the notable consequences of the mechanisation of labour fall within the category of "hindrances or inhibitions". Even so, we are concerned with specific accompaniments of mechanisation which do not necessarily characterise every kind of labour at a machine, and which, in the case of any particular technical method, do not evoke identical reactions in all workers.

When, guided by such reflections, we proceed to analyse the favourable and unfavourable effects of the mechanisation of labour, we find that the "terror of the machine", about which Henry Ford recently made merry, is not an idea which can help us to understand the real causes of the industrial worker's distaste for work. On the contrary, this notion is apt to lead to tendentious generalisations which interfere with an understanding of the realities of the situation. I propose, therefore, to discuss this fear of the machine before continuing my analysis of specific hindrances and inhibitions.

One who so chooses is, of course, perfectly entitled to regard machine production as responsible for all the evils of contemporary society and extant civilisation. Such an idea has its value in the interpretation of history, in so far as it throws light on the main technical and economic causes at work in certain important phases of civilisation, and upon the general social relationships of these periods. Nor can any opinion be expressed as to such interconnexions between the technical methods of production and the state of civilisation, without a certain emotional stress which betrays that the valuations of the speaker or writer are determined by a specific cultural ideal. Thus, since the publication of Samuel Butler's *Erewhon*, fifty-six years ago, almost all the literature of our age has breathed a criticism of mechanisation; a criticism which, with the staging of Karl Capek's *R.U.R.*, has invaded the drama as well. The machine has come to be regarded as simultaneously cause and symbol of the mechanisation of the methods of life and thought, of that mechanisation which pessimists look upon as a sign of the decay of the western world, and even optimists interpret as (at the best) a ransom to be paid for the possibilities of a better future, as a symptom of painful transition.

Such symbolism, however, is of no use to us when we are attempting to diagnose a practical problem of detail, and are looking for a guide to therapeutics. In certain intellectual circles, there exists a characteristic detestation of machinery, a state of mind which is seen at the first glance to be a matter of abstract theory, based on inadequate knowledge, and entailing no personal inconvenience. Most of these people would, in truth, be in the depths of despair if for only twenty-four hours thay had to get along without the advantages and comfort which nothing but mechanical production could have supplied.

It is noteworthy that such a hatred of mechanisation is chiefly to be found among persons who are in a position to enjoy the economic advantages derivable from the machines they dislike; whereas the workers, who serve these same machines, and have for their pains to content themselves with scanty rations of second-rate goods, have as a rule little inclination for such symbolical machine-breaking. We must not ascribe the workers' attitude in this matter to their being, as Lassalle phrased it, "so damnably unexacting". The reports show that workers become less and less inclined to show hostility to machinery, in proportion as they attain a higher level of occupational and general culture, in proportion as their social needs and intellectual standards are higher.

None the less, of course, a writer may still be entitled to pillory the new cultural type of machine man (Shaw's Straker in *Man and Superman*, and Keyserling's chauffeur in The World in the Making, *Die neuentstehende Welt*) as the pitiful product of an uncultured age. Pitiful his figure must certainly appear when he, the mass man, is contrasted with selected individuals of an earlier day. But is such a comparison admissible? Straker, a caricature product of elementary-school education, a man with a

pseudo-encyclopaedic knowledge, devoted to screws and gear-wheels, an idoliser of speed records, may, in a sense, be regarded as typical of contemporary civilisation. Yet he is not wholly representative, for if he were to write books, these books would not be so widely read by the cultured as are those of Shaw and Keyserling. At any rate, as far as cultural types are concerned, we have no right to compare him with the handicraftsman of the Middle Ages, any more than with the scholar of the Renaissance, or with the cultured aristocrat of the eighteenth century. Our outlook is a narrow one, is (even if unconsciously) tinged by class considerations, if we overlook the fact that in a retrospect upon earlier ages, we have no right to identify the condition of the masses with that of a small and culturally dominant stratum. This fallacious outlook already leads to erroneous conclusions when we are merely concerned with the comparison of cultural ideals; but still more does it lead us astray in the sociological domain, where we are concerned with statistical stratifications in accordance with cultural states. A standard for the appraisement of specific social states must be sought for, either in the subjective estimates of the persons concerned, or in an objective comparison between persons who belong to kindred social strata in the respective epochs. On these lines, we should compare the chauffeur of today, not with members of the cultured class of an earlier day, but with his own father and grandfather; or, better still, with workers and peasants of the early days of capitalism, or of the pre-capitalist era. Best of all would it be to judge of his condition by a comparison between his own socially determined position in life, and the no less socially determined claims he makes upon life.

If we take this course, we promptly (even in so restricted

an investigation as the present) stumble upon a number of psychological social problems which cannot be solved with the aid of any such simple formula as that of man versus machine.

Besides, the more difficult method of concrete analysis will repay us for our trouble. It will help us to something even better than a mere insight into the phenomena in and by themselves; it will show us that we may hope in the future for a better solution of the problem than a despairing admission that it is equally impossible to maintain civilisation without machinery and to develop civilisation with the aid of machinery. If we study the details of the machine worker's lot, we find that even in the spiritual sense that lot may be considerably bettered without surrendering the economic advantages of mechanisation, and, indeed, primarily as the outcome of a further development of the machine method of production.

Only under specific social conditions, conditions associated with an elementary phase of machine development, is machinery the worker's foe. Under other social conditions, and at a higher level of technical development, machinery becomes essential to his social enfranchisement. This is true, quite apart from the possibilities of a fundamental transformation in the system of the ownership of the means of production. Amelioration, which for the masses will reduce to a tolerable minimum the disparity between need and gratification during work, is possible today, and is already to some extent in course of realisation. If we are to improve matters along these lines, our motto as regards technical development in the way of further mechanisation and rationalisation, must not be a futile "Backward" but a vigorous "Forward". "Forward" too, it need hardly be said, must be our motto likewise as regards the social endeavours which

aim at re-establishing the worker's right to control the material means of production, for only on this condition can the machine become a friend of the man who works it, instead of his enemy, only on that condition can it become his servant instead of his master.

Were it true, as is currently believed by intellectuals, that spiritualised ideals are incompatible with mechanised labour, it would be especially among the more intelligent and socially more exacting upper strata of the working class (those to which the writers of the reports belong), that we should find the most declared hostility towards machine and factory production. Yet the very reverse of this is true. The facts become especially instructive when we consider the reasons given in the reports. Those adduced to account for hostility to machinery are of six different kinds.

a. We are told that work with particular machines involves excessive demands on the worker's bodily strength, as compared with the manual method formerly in use to achieve the same result. Typical instances are that of the boring machine so much detested by coal-miners, and that of the pneumatic hammer which boiler-makers detest even more cordially. The transference of this objection to machinery in general is inadmissible because in most instances the introduction of machinery brings about an alleviation of crude bodily toil. It is characteristic, moreover, that even in these exceptional instances the workers do not demand a return to the earlier manual methods of work; they all look for a further improvement in technique, thanks to which the demands made upon them physically will be lessened.

b. Certain machines or mechanical labour processes are dangerous or injurious to health. This objection is, in most cases, closely associated with the previous one, so

that the same instances might be quoted, and, as in the former case, the objection carries with it a demand for further technical improvements.

c. The machine makes excessive claims upon the worker intellectually speaking. The reports contain only one instance of this complaint, that of the before-mentioned quarryman (case 37), who found the stoking of a quarry locomotive too much for him on account of his "technical incapacity". This isolated objection is unimportant, contrasting as it does with the usual complaint that machinery does the very opposite, that it despiritualises work. In so far as machinery does actually demand intellectual qualities or greater skill from the worker, what proves a disadvantage in this particular instance, will, when there has been suitable preliminary training, be regarded as an advantage.

d. The machine imperils the social status of manual workers engaged in the same branch of production, inasmuch as: (1) It forces down wages; (2) it makes the workers' position more uncertain than before, by bringing about crises of overproduction and promoting unemployment (as happened to the British textile workers in the days of the industrial revolution); (3) it imperils the whole existence of a particular branch of production, by modifying demand (as happened in the case of the wood carvers at the turn of the century); (4) it impairs the social status of the skilled workers; (5) in the case of workers already employed at the machine, a demand may be made for more intensive work and increased productivity, without any corresponding increase in wages (cf. the resistance of the weavers to an increase in the number of the looms they were expected to manage).

This last concatenation of causes is, of course, a very

serious one. Still, I must point out that we are not here concerned with any directly technical effect of mechanisation upon the way in which the work is carried out; but with indirect, social consequences. Now, these consequences may vary as social conditions vary, especially in so far as the disadvantageous effects of mechanisation may be mitigated, annulled, or transformed into advantages, by a more effective social protection of the working class, by trade-union activities or by legislation. Furthermore it has to be remembered that the causes alluded to are only operative, at any rate in their worst forms, during the transition from handicraft to machine production, a stage which, as regards most branches of production, is long over and done with.

Machine-breaking, as reaction on the part of the impoverished masses in certain industries during the early days of mechanisation, belongs, as far as advanced industrial countries are concerned, to a period which already lies a considerable distance back in history. On the other hand, today, in all industrial countries, a majority of the better-paid workers are engaged upon machine production or upon mechanical transport, whereas the less highly skilled and the less well paid workers are mostly engaged in auxiliary manual occupations, the mechanisations of which would usually demand increased skill and would carry with it higher wages. The independent handicraftsmen whose social independence would be threatened by a further progress of mechanisation are so few in number that they need scarcely be taken into consideration for general statistical purposes. In short, promotion of the use of skilled labour is today more characteristic of machinery than is promotion of the use of unskilled labour. Hostility to machinery is metamorphosed into friendship, or at least

into indifference, as soon as the use of machinery ceases to cause an obvious loss of status as a skilled worker and to entail social degradation. It was natural that a compositor should be up in arms against a typesetting machine as long as it was a menace to his occupational and social status. But a man in charge of a typesetting machine, when his trade union has enabled him to maintain or even to improve his position as compared with that of a hand compositor, will no longer have any feeling of the kind.

e. The machine will in certain cases be detested owing to the existence of an occupational complex, thanks to which everything which in the worker's mind is associated with his occupation is regarded with resentment. There is a transference of affect. The causes of such resentment may vary. In so far as they have any real connexion with the mechanisation of labour, they belong to one of the other rubrics we are now considering; if they are not really connected with the mechanisation of labour, we have nothing to do with them here. Hatred of machinery as an accompaniment of an occupational complex need not, therefore, concern us further.

f. The machine reduces joy in work because the work is detail work or because it is repetitive work. To this, in the last resort, is reduced the objection that is made against the machine in and by itself, on account of the changes in technical functioning its use involves, and apart from the previously considered social subsidiary consequences, which must be approached from the social side. This is manifestly important enough to demand serious examination, which means something very different from passing judgment on "mechanisation" out of hand on the strength of a preconceived dislike of it. For it soon appears that, as regards the way in which tasks

are modified, there are certain consequences of detail work and repetitive work which do not justify such a condemnation. We have already learned this as regards detail work. In like manner, the spectre of repetitive work loses many of its terrors when we look the creature in the face.

This, no doubt, explains why the reports contain a surprisingly large number of utterances which convey a feeling towards machinery and factory work very different from the mood which students of romanticist machinophobia in fashionable literature have been led to expect, and very different too, from the "lasciate ogni speranza" of Marx's famous description of the factory.

Especially instructive are six of the reports, furnished by persons who had become engaged in machine production after having been independent artisans. Three of them describe this change as a descent; the other three, as an ascent.

Those who take an unfavourable view are the following. First, a man who had once been a village blacksmith, but whom unemployment drove to seek work in a factory. There he found the social working conditions much worse than he had been accustomed to. The hours were longer; he had to take night shift on alternate weeks; his earnings on piece work were lower; and so on. The second case was that of a bricklayer, likewise uprooted. He had become a fireman, and detested his occupation for reasons of his own, which had nothing to do with its technical features. These pleased him well enough; what he objected to was the quasi-military discipline to which he was subjected. In the third instance, a man who had finished his training as a skilled joiner, could find no employment, but had to become a textile worker (a

carder and winder). He hates his occupation as monotonous and unwholesome; yet we must remember that his standard of comparison is not with the work of a fully-fledged joiner, but with his apprentice days.

Now let us turn to the instances in which an ex-handicraftsman's judgment of mechanised occupations is favourable. Case 20 is that of a sometime upholsterer who becomes a worker in a hat factory. Although his occupation is now a highly specialised one, he does not find that his being engaged on detail work is a come-down in the world; he is content because he is now in a fairly responsible position. He is also pleased to be in large-scale industry, because, being keenly interested in political questions, he has now ample opportunity for talking things over with an extensive circle of fellow workers. Case 27 is that of a man who, after being trained to become a toolmaker, has secured occupation as worker in a felt factory. He is so well pleased with his position, that he refuses an offer to resume his occupation as toolmaker. He considers his present work at the machine quite as highly skilled as his old handiwork, and he says that physically it is much less exhausting. The livelier sense of companionship in the large-scale enterprise, and the recognition of improved workshop hygiene, play their part as well. Case 40, that of a bootmaker, is especially instructive, because he is the only one of the three who, after training as a handicraftsman, has proceeded to factory work in the same branch of production. He actually prefers detail work at cutting uppers in the factory to the generalised bootmaking on which he had previously been engaged, and he does so for the following reasons: higher wages, regular hours of work, greater security of occupation, improved workshop hygiene. He does not find the detail work more monotonous; and,

being keen on his activities as chairman of the Workers' Council, he finds his social independence of his employer a great advantage, whereas formerly his direct dependence upon customers and upon the master had been oppressive.

Case 11, a toymaker, is likewise that of a man who experiences a change in social position without a change of occupation. This time, however, we have to do, not with a handicraftsman, but with a home worker, who enters a factory. He regards the change as an enfranchisement from intolerable social torment. The nature of the work in the factory is practically the same as it was in home industry, but it has become more regular, the hours are shorter, the earnings are higher, the surroundings are healthier, and the factory workers are much better organised, and therefore receive more consideration.

Comparisons between manual work and machine work are also found in the following six cases, and in each instance machine work in the factory is expressly preferred.

Case 2 is that of a platelayer who is dominated by a strong complex hostile to his occupation. Previously he had worked as a weaver in a factory, and this mechanised labour was far more congenial to him than his present occupation on the railway line, for it tired him less, and demanded more intelligence than work with pick and shovel.

Case 7 is that of a woman who was at one time a domestic servant, and has now become a cigarette maker. She writes at the close of her report: "I greatly prefer life at the factory, because I am much freer there."

Case 8 is that of a man who has been employed as an unskilled labourer in all sorts of industries. He prefers work at a machine to manual labour, on the ground that the former is more responsible and makes higher demands

on his intelligence. A talented young man, after experience in ten different branches of production, he writes: "Among the various unskilled occupations in which I have been engaged, the one I liked best was that of machine minder to woodworking machines, for this needed a certain amount of intelligence. Quick reactions were requisite for the proper control of the machine; I had to stop it and start it at irregular intervals; the wood was worked differently and with varying amounts of force at different times; better work could be turned out by using the machine skilfully and accurately, by seeing to it that the knives were sharp, by responsible care of the machine."

Case 21 is that of a man who for some years was a textile worker, but who, detesting the dust in the factory, craved for another occupation, which he at length secured as a gardener. After six months as a gardener, he returned to factory life for several years, until he was black-listed by all the local textile firms on account of his trade-union activities. He then became a builder's labourer for a time, but says: "A born factory hand could not stick that sort of work for long. Six months later, I was at a loom once more." In the factory, pay was better, the work was more responsible, and there was more social life. As regards this last matter, he writes frankly: "There were a lot of pretty girls in the factory, and it cheered us all up to have larks with one another." He also considered it a great advantage that in the factory there was a half day on Saturday, and very little work done on Monday.

Case 26 is that of a metal-borer, a lively young fellow with a restless and vagabond temperament. After diversified experiences, he came to the conclusion that work in large-scale industry was the best, because there the

atmosphere was more "broad-minded", and there were chances for the fuller gratification of his social impulses. He, however, is not thinking of "larks" with the girls, but of political discussions, and of activity in the working-class education movement and on the Workers' Council. He prefers factory life for reasons akin to those which lure so many countryfolk to the large towns.

Case 45 is that of an engineer who, after trying his hand at a good many occupations, including those of coal-trimmer, and stoker at sea, considers that, no matter how far the division of labour may go, the worker at the machine can find most joy in his work, for "machine work calls upon all a man's faculties, and does so more extensively than it used to, owing to the higher development of modern technique". The reader should note, however, that this man is drawing comparisons, not between machine work and handicraft, but between machine work and the work of a manual labourer.

The foregoing instances combine to show that there are two main phases of mechanisation which respectively determine differing attitudes on the worker's part towards machine and factory production.

In the primary phase, when handicraft is being crushed out of existence by machinery, a machinophobe attitude predominates.

In the later phase, when machinery has been perfected, a new kind of joy in work is born, with the result that the workers come to prefer machine work to manual work.

The earlier phase, of which the classical instance is the mechanisation of the textile industry during the first half of the nineteenth century, is a thing of the past as far as most industries are concerned. In the industrial countries of Europe, it reached its climax during the

crisis of the years 1847–1848 (the date of the *Communist Manifesto*), when widespread poverty prevailed among the industrial workers. Craftsmen who are independent producers, like the village blacksmith, or the small master-tailor, play an insignificant part in modern production. Besides, since the disappearance of the last relics of the old guild system, the frontiers separating this stratum from home workers on the one hand and from petty employers, on the other, have been more and more obliterated. The slow advance of mechanisation in those branches of production which still remain predominantly handicrafts, is due, either to peculiarities in the nature of the occupation (hairdressing, for instance), or else to the peculiarly local character of the demand (e.g. the work of the village cobbler). The replacement of handicraft by machine industry ceased long ago to have a dramatic and catastrophic character, and tends more and more to assume the form of a long-drawn-out process of extinction which does not involve any notable changes in social stratification. Today there remain very few industrial workers who began their careers as independent craftsmen—independent in the social sense. There is not one instance among the seventy-eight reports.

Somewhat commoner are the cases in which a man who has been engaged in manual work as a wage earner (in the building trade or some similar occupation) transfers to machine industry. We have just been discussing the experiences of six of these. We must, however, distinguish carefully between manual work and handicraft in the medieval sense. The builder, the joiner, and the upholsterer whose cases were described above, though they had learned a trade, had never become craftsmen in the old meaning of the term, for they never did more

than carry out work under the orders of a master. Their position was a dependent one, not only socially, but technically as well. Their subordinate position deprived them, for the most part, of the main element which promoted the medieval craftsman's joy in his work, namely, the feeling of self-determination, the sense that he could do his work in his own way and at his own speed.

These considerations explain why the transition to machine work is nowadays usually regarded as an improvement and as a social advance. The chief exception is the coalmining industry. Here the recently introduced mechanised methods of coal hewing involve special disadvantages and dangers, and have therefore aroused hostile reactions among the workers concerned. Nevertheless, for the enormous majority of modern industrial workers, there no longer exists a choice between manual work and factory work. They must work in a factory anyhow. For some of those who work in the factory, the choice is between manual work and work at the machine; and for the others, for those who are already working at the machine, the only question is whether or not there shall be further mechanisation and rationalisation.

These two problems dominate the second phase of mechanisation, that which characterises most branches of contemporary production.

The bulk of those who work in a branch of production which has already been mechanised, tell us that they prefer machine work to manual work. This is natural enough, for the manual work done in factories is nowadays, mainly, unskilled work, hodman's work. The impulse towards economic and social betterment naturally makes the worker aspire towards occupation as a semi-skilled or skilled worker at the machine, where he will earn better wages and be less likely to suffer from unem-

ployment. True, machine work, even when better paid because it is more productive, is not always more highly skilled than hand work of the same kind. Beyond question there are many cases in which the wage worker in large-scale industry regards the transition from manufacture to machinofacture as entailing for him the loss of his status as a skilled worker. The bootmaker of case 40 would have taken this view if he had had simply to mind a machine that cut uppers, instead of cutting uppers himself. But this does not fully solve our special problem, which is that of joy in work; for sometimes, although work at the machine may demand less skill than similar hand work (this being shown by the shorter period of training), the machine work may be less monotonous, may demand more initiative and mechanical understanding, and may prove less fatiguing. A woman, for instance, will learn far more quickly and easily to manage a cigarette-making machine than to roll cigarettes by hand; but she may well find that cigarette making by machinery is a less monotonous, a less stupefying occupation, than cigarette making by hand.

Speaking generally, does the mechanisation of labour tend more often to promote or to lessen joy in work? Owing to the great variety of the tasks upon which machine workers are engaged, owing to the incessant changes in technical processes, and owing to the diversified ways in which individuals react, it is impossible to give a precise statistical answer to this question. Extremely hazardous would be the attempt to draw numerical conclusions, on this matter, from the reports. Caution is all the more requisite because unskilled occupations are so scantily represented in these reports. We must mainly content ourselves with demonstrating the typical kinds of reaction, without trying to estimate the comparative

frequency of this reaction or of that. We have learned something very important when we have learned that today, in the second phase of mechanisation now dominant, machine developments tend to make the workers skilled rather than to make them unskilled, and that for this reason they are less and less inclined to be hostile towards machinery and more and more inclined to be friendly.

This trend is notably assisted by a natural psychological tendency which animates the worker as a producer. The worker is something more than a mere "seller of labour power". His labour power is not a simple sort of commodity which he hands over morning after morning to the porter at the factory gates, packed up and addressed to the employer. For him, it is realisable as energy—in his work. In view of the speculative profundities of classical and Marxian political economy, this truism may seem almost a paradox; but nevertheless the worker does not merely "sell his labour power"—he also *works*! Now, work is a voluntary process which cannot be carried through without directing attention and interest towards its aim, the product. The worker wills to be a producer, for he would be too unhappy if he were nothing more than a seller of labour power. As producer, of course, he is likewise influenced by the "economic principle" of wanting to secure the greatest possible result for the smallest possible expenditure of energy—or of wishing (to use the more generalised formulation of Schaffle) to get the largest amount of enjoyment of life for the smallest sacrifice of the pleasures of life.

This principle does not, as people usually seem to assume, dominate exclusively the employer, the manager of an enterprise, or the independent individual producer. In the employer, indeed, it is not operative in an unquali-

fied form, as it is in the worker. The economic principle which supplies meaning and aim to the entrepreneur's activities, must be differently phrased. He wants the cost of production to be as low as possible, and the yield as great as possible; or, in so far as he is a merchant, he wants the lowest possible cost and the highest possible prices. These are extremely rationalised, one might almost say perverted, forms of a general psychological principle which the actual creative producer spontaneously applies in its healthy primitive form, under the promptings of his instinct for purposive activity. Even the wage worker who is paid by time, however ill remunerated and however uninteresting his occupation may be, prefers to work with good tools rather than with bad ones, with good material rather than with bad. He wishes this, were it only for the reason that unless he produces at least a certain minimum, he will be discharged; and this minimum yield is easier when the tools and the material are good. But only a worker whose mind is extremely debased will be influenced by no other consideration than this. The more labour-saving the technical equipment, the easier will it be for the worker, by expending the same amount of labour, to produce more and to produce better; and, thanks to this, his activities will acquire a significance which will gratify his instinct of self-assertion and appease his need for self-esteem. Thus the driving force requisite for rationalisation, the essential driving force both in respect of the primary psychological impulse and in respect of the economic end that is sought, will be found in the worker.

It is important, however, that this rationalisation should not be a means for prejudicing him economically or for oppressing him socially (even in the subjective sense of reducing his self-esteem). Inasmuch as, in the

earlier days of industrialisation, the introduction of machinery almost always had this effect, the proletarianised handicraftsman tended to become a machine breaker, or at least a machine hater. But in the present stage of mechanisation and rationalisation, it is possible to spare the worker these consequences, and even to make him participator in the social advantages of increased productivity, with the consequent removal of the inhibitions which prevent his feeling himself to be a genuine producer. Now, for the producer, a self-evident and instinctive application of the economic principle—or, as we now phrase it, rationalisation—is something more than rational and utilitarian; it is for him essential to his spiritual equipoise, to his self-respect, to his happiness. This is a question of psychical hygiene even more than it is a question of economics; for of what utility is production if the producer can only achieve production at the cost of leaving his most elementary spiritual feelings ungratified?

The reports demonstrate clearly that the impulse towards rationalisation is, in fact, an elementary one; showing itself primarily, in the manual worker, as a demand for better tools; and logically developing from this, in the machine worker, into a demand for better labour-saving machines. As a condition requisite for their taking a higher pleasure in their work, a great many workers not only demand the introduction of better, and more labour-saving, tools and machinery, which will make their immediate tasks easier; but also, detesting waste and disorder, want the whole enterprise to be better managed than it is. Such a hatred of waste, of disorder, of "muddle", finds expression in many of the reports. Occasionally the feeling discharges itself in action. Thus a joiner (case 64) writes: "As chairman of the Workers'

Council, I was able to exert an influence in the direction of improving the equipment of the enterprise, by securing the introduction of small labour-saving machines, which made the work easier, and increased the workers' pleasure in what they were doing."

A cooper (case 36) describes what is a common experience among the workers: "I have always taken the greatest possible care of the tools I was using, for my joy in my work was largely dependent on their goodness and usefulness. I paid great attention, too, to the things necessary for keeping my tools in good order, such as the whetstone, etc., since the usefulness of the tools depended on these things. I have noticed, also, that my workmates lay great stress on having good tools and material. I am sorry to say that, in my experience, the heads of enterprises (with few exceptions) pay little heed to this matter. It is very difficult to get an employer to provide new tools until the old ones are utterly worn out. My feeling towards the machines is exactly like my feeling towards my tools. . . . On the Workers' Council, I have always done my utmost to promote the better ordering of the enterprise, though not always with as much success as I could wish. The employer's usual answer to my suggestions under this head was: 'That will cost too much money'. For instance, often enough, I might say almost every day, the machinery was run so slowly that the workers could not get on with their jobs, to say nothing of the fact that slow running is much more dangerous. The reason was a lack of fuel for the furnaces. . . . On one occasion, when whole cartloads of scrap wood had been sold and taken away in the morning, at noon the wheels were scarcely turning, although the stoker told me that quite a small part of the wood that had been sold would have sufficed to keep the machinery running properly. But when, again

and again, I complained to the boss about the slow running of the machinery, and asked that it should be speeded up, I was always fobbed off with the same references to the expense."

No doubt we often hear complaints of the same kind from the side of the employer, who tells us that his workers, for other reasons no doubt, will not assist him in his attempts to rationalise the enterprise. Why is it that we so often hear such complaints from the employer's side, so rarely from the worker's side? Because those who have the ear of the public, the employers at their head, partly from ignorance and partly from an eye to their own interests, are loath to admit that the workers' desire to enjoy their work can provide a powerful, though commonly unutilised, motive for that rationalisation of production of which the capitalists are always ready to talk when they think there is a chance of shifting on to other shoulders the burdens and sacrifices it will entail.

After this parenthetical account of the essential interconnexion between mechanisation and joy in work, the ground is clear for the study of the specific problem of repetitive work.

First let me point out that repetitive work is by no means restricted to machine production. We find it also in the case of manual labour, and this in two main forms: the frequent repetition of one movement or series of movements in the elaboration of a particular product or partial product; and the frequent repetition of the movements needed for the handling of a product or a partial product which has to be turned out in large numbers. An elementary instance of the former type of repetition is furnished by sewing or sawing; an elementary instance of the second kind is the series of movements which have to be repeated in the mass pro-

duction of a certain type of carved wooden toys. In practice, the two kinds of repetition are usually combined. An extreme instance of this combination in manual labour is given by Hugo Münsterberg, who tells us of a workwoman engaged in wrapping up filament lamps in paper. She wrapped up thirteen thousand a day, and had, at the time of his report, wrapped up a total number of fifty millions. In the case of machine work, an extreme instance is that of workers at a conveyor in the manufacture of motor cars, who are eternally repeating the same series of elementary repetitive movements on the same products—such as the incessant screwing up of identical screws.

Just as little as all repetitive work is machine work, is all machine work repetitive work. From the outlook of distasteful monotony, the worst kinds of repetitive work are, in fact, contained in reports of manual work, such as the packing of parcels for the post, the hand folding of sheets for the binder, and the rolling of cigarettes. Among unskilled and semi-skilled workers engaged in manual labour, repetitive work is the most frequent cause of distaste for their occupation. In the case of workers at the machine, this is less frequently adduced as an explanation of distaste for work. As regards the skilled workers in the report there is only one of them (the winder, case 22) who declares that repetitive work is the main cause of his dislike for his occupation. Among the others (and especially among the metal workers, who frequently pass from work at an individual product to mass production, and back again), it is true that we often find repetitive work mentioned as an accessory and occasional cause of distaste for the occupation. It should be noted, however, that hostility to payment by piece rates in mass production is an essential element of this feeling.

Yet out of fifty-one skilled workers who reported, only one described repetitive work as the cause of a predominance of distaste for work over joy in work.

"Mechanised work" and "work at the machine" are not the same thing. Among those who experience the highest joy in work, we find a few who are persons engaged in occupations more or less akin to handicrafts; but most of them are among the far more numerous machine workers, who, feeling themselves to be masters and overseers of the machines, have not the same reason to dread repetitive work as has the unskilled manual worker. At a certain level of technical development, the machine takes over from the worker who supervises it all or most of the repetitive operations which he would otherwise have had to perform. Thus we are led to the apparently paradoxical conclusion that the best way of demechanising work is to hand it over to a machine!

We must further take into consideration that the psychological effect of repetitive work in and by itself is not necessarily negative. The amount of it, and the environing conditions, affect the issue. There is hardly one result of repetitive work which may not prove favourable or unfavourable as circumstances vary.

The most important effects of repetitive work upon the worker can be classed under four heads: *a.* monotony of motion: *b.* reduction of initiative; *c.* slackening of attention; *d.* hypnotic effects of rhythm.

a. Monotony of motion. The immediate physiological effect of repetitive work is that it continues over and over again to call into action the same group of muscles to perform the same series of movements, and sometimes also necessitates the permanent adoption of an abnormal bodily position. This may have various consequences. (1) There are certain appliances which need so little

muscular force that it is exceptional for their use to give rise to bodily fatigue, and then repetitive work is harmless in a physiological sense. But this applies only to a minority of instances, and especially to those in which the worker has repeatedly to throw a machine into operation and out of operation, as by engaging a clutch, turning a switch, etc.; but in the case of purely manual tasks a certain amount of bodily fatigue can rarely be avoided. (2) The bodily fatigue may be very small, so that by a few days' or a week's training the liability to it can be overcome. That is what most often happens in the case of repetitive work at the machine. In such cases, as regards the production of fatigue, this kind of repetitive work is obviously preferable to the heavy manual labour that would otherwise be needed for the performance of the same task. (3) If the demand made upon particular groups of muscles is too great to be normally overcome by training, the disadvantageous consequences of over-training, of "staleness", ensue. The prolonged assumption of particular attitudes in repetitive work will sometimes induce characteristic distortions of the parts of the body chiefly concerned.

It is obvious that for the performance of a given technical task, under otherwise identical conditions, physiological fatigue will be less marked, the more the actual movements requisite for transforming the matter upon which work is to be done are entrusted to a machine. This last "takes the brunt of the fatigue". In mass production, the task of the machine worker is usually restricted to one or more of the following five kinds of operation: 1. Regulation of the course of production, by starting the machine or stopping it, by speeding it up or slowing it down. 2. The feeding of the machine, and the withdrawal of the finished products and collection of

them for transport. 3. Guidance of the working of the machine to ensure its running smoothly, both in respect of precision and of quantity of output. 4. Overcoming occasional disorders in its working. 5. Keeping the machine in order for permanent work. Of these five varieties of occupation, only the first two, as a rule, are repetitive; and only the second (the handling of the product at the beginning and the end of the mechanised process) sometimes demands considerable bodily energy. The number of cases in which such expenditure of bodily energy is needed grows ever smaller in proportion as technical advances entrust the more exhausting repetitive operations of feeding the machines that work upon heavy material, either to these machines themselves, or else to distinct mechanical means of transport. In large factories, the introduction of mechanical devices for feeding the machines and for internal transport can render superfluous just those tasks that used to demand the heaviest muscular effort from the worker.

On the whole, therefore, it is plain that the replacement of manual operations by machine operations has a tendency, even though this may imply an increasingly repetitive type of work, more and more to exclude the causes of great physical fatigue. That, presumably, is even more important than the reduction of working hours as an explanation of the gradual disappearance of bodily over-exertion as a cause of distaste for work. Half a century ago, an investigation similar to that which I have recently conducted would certainly have disclosed bodily fatigue as the main cause of distaste for work. Even today, of course, this cause is by no means excluded; but it has passed into the background in comparison with other causes, some of which are new ones. Even as regards this special problem of fatigue, psychogenic and nervous

causes are far more generally operative than is a purely physiological over-exertion of the muscular system.

b. Reduction of initiative. The most striking psychological effect of repetitive work is that it deprives the worker of the need for initiative, such as is requisite at each new phase of "normally" differentiated work. Purely repetitive work demands only one initiative, namely the beginning of the work; after that, its continuance is quasi-automatic. If we contemplate the human organism as a working mechanism whose performance is to be measured, in accordance with the economic principle, by a quantitative comparison of the amount of goods created with the amount of energy expended in creating them, the saving of initiative in repetitive work will be considered an advantage. From the outlook of the psychologist and the ethicist, on the other hand, from the outlook of one who appraises the action according to its motives, this loss of initiative is a drawback. The contradiction is not insoluble, inasmuch as the conflicting outlooks are too onesided and too absolute to serve as a standard of reality.

The psychological horizon intersects with the economic horizon at the point when a loss of joy in work (owing to the lack of demand for initiative, and owing to resentment felt for a habituation which has become coercive) entails a psychological fatigue which tends to reduce output. From that moment, a mental state has acquired a form which can be measured by economic standards; the expenditure of energy upon whose amount it depends whether the operation is or is not a paying one, is itself dependent on the will of the worker, and is reduced when the work becomes distasteful. We find another point of intersection between the economic and the psychological horizon as soon as we cease to study the problem of the

economy of effort in isolated instances, and turn to contemplate it from the outlook of social utility; for as soon as we do this we have to take into account the remote effects in space and time, such as a gradual falling-off in the quality of output, the premature exhaustion and nervous disorganisation of the worker, his embitterment towards society, the degeneration of his offspring, the destruction of his will to work, etc.

Confining ourselves to a study of the immediate reactions of the individual, a very brief observation of the facts enables us to draw two important inferences. We note, in the first place, that a need for the exercise of initiative (in other words, a need for the gratification of the creative instinct) as an essential condition to joy in work varies greatly from individual to individual; and in the very large majority of workers there is surprisingly little of it, as compared with the initiative activities of most mental workers. In the second place we find that, even in people endowed with a large measure of the constructive instinct (the instinct of curiosity, the instinct of play, the instinct of self-assertion etc.), so that their mental make-up is one which demands a considerable exercise of the powers of creative initiative, there is a need for the alternation of periods of creative work with periods of quasi-automatism, when the initiative faculties can take a rest.

The bow must not be kept always on the stretch. Every one knows that mental work, whose very essence is initiative, entails fatigue in accordance with the operation of far more stringent (and often far more cruel) laws than does bodily work. Every experienced mental worker knows the danger of that period of apparent intensification of functional capacity which follows on the phase of primary fatigue, an intensification

which corresponds in the mental sphere to what in the domain of bodily training is called "second wind". Every genuine mental worker knows, too, how devastating may be the effects of the "toxin" of mental and nervous fatigue, how suddenly these effects may make themselves manifest both in body and in mind, and how slow and tedious is recovery from mental fatigue in comparison with recuperation after even an excessive expenditure of bodily energy. These are facts of familiar experience, and their recognition may leave open the still enigmatic problem concerning the nature of and the distinction between various conditions of fatigue—especially the question whether we are justified on principle in isolating the idea of "mental functioning" from the working of the physiological apparatus in and through which the mind manifests its activities.

This much is incontestible, that initiative work speedily induces fatigue (or, in the case of persons who have been made wise by experience, a more or less conscious dread of fatigue) to the degree at which a cessation or a change in the activity is demanded. How soon this moment will arise depends on circumstances, and especially on the make-up of the individual. In every one, however, the period requisite for the induction of such fatigue, or of the dread of such fatigue, ranges between no time at all and a maximum which is variable but comparatively easy to ascertain. Consequently, in every one whose work normally demands creative initiative, whether he be an artist, a man of science, or a manual worker, there are interludes during which, though work continues, a certain measure of automatism is essential as a mode of recreation. For example, in the course of writing this book I find it a welcome change, after excogitating and penning several pages of theoretical disquisitions, to flutter my

notes in search of material, or to spend a little time in work of mechanical tabulation. This rests me just as much as if I had gone out for a stroll and to smoke a pipe, and is indeed a more effective form of recreation, for if I were to go right away from my work, a greater effort would be required to get my thoughts "in the swim" again. The quasi-automatic nature of the diversion rests me without distracting me, and is favourable to an orderly continuance of those subconscious creative processes which are the foundation of all mental work.

Although, therefore, when once the necessary manipulations have become habitual, repetitive work grows automatic and relieves the worker of the need for initiative, we must not jump to the conclusion that he will necessarily be deprived of joy in his work. That is a question of degree and of individual predisposition. At the close of the present chapter I shall return to this topic, and shall sum up my conclusions.

c. Slackening of attention. This is closely connected with the foregoing, with the fact that in repetitive work there is little need for voluntary initiative. Mutatis mutandis, therefore, most of what has been said under the previous head applies under the present one. As a matter of fact, we are concerned, not so much with the release from the need for attention, as with release from the need for a conscious voluntary effort to attend. In proportion as initiative is replaced by habit, voluntary attention is replaced by involuntary attention (what Ribot calls "attention spontanée").

Therewith ensues a change in the content of the field of perception towards which the attention is directed. First of all, the worker's own movements disappear from that field. When, in the learning of a repetitive action, the worker has got beyond the first phase of convulsive

effort, the phase in which the movements are, as it were, self-conscious, his attention withdraws itself from these movements, and concentrates itself more and more on the product and on the material instruments of labour. By degrees, however, these likewise tend to fade out of attention. When the repetitive action has become thoroughly automatised, the attention only grows alert when accidental disturbances occur. As an unskilled worker (case 3) phrases it: "The head no longer knows what the hands are doing". But the moment the customary sensation becomes in the slightest degree abnormal, the instant an unfamiliar noise is heard, the instant an unexpected resistance becomes perceptible, attention awakens. In this way the work becomes reduced to a mere readiness to do things which, if all should run a normal course, there will be no need to do. The machinist in the cigarette factory (case 50) says aptly: "A machine minder who has to work is no good at his job". In other reports we read, "the mind is set free", "the thoughts can wander", and so on. Such is the effect on consciousness of the exclusion of the need for initiative.

These phases of automatism are welcome in every kind of work because they facilitate a relaxation of attention. The ideal occupation would be a rhythmical alternation of phases of tension and relaxation, with a predominance of the former or of the latter according as the tension demanded by the work were less or more intense, and according as individual predisposition might vary. In workers whose activities are diversified enough for the occasional phases of repetitive work to come as relaxation of tension, this amount of repetitive work must therefore be regarded as a favourable consequence of mechanisation. Most instances of the kind are to be found in the reports of skilled metal workers and book printers.

In typical repetitive occupations, however, there is not, as a rule, a sufficient demand for attention to induce a need for this kind of relaxation and refreshment; there can hardly be said to be any initiative from which the workers need a rest. Normally, we have to do with that withdrawal of attention from the working activity which is so characteristic of machine industry as contrasted with handicraft.

There is no doubt that to a great many workers this seems an advantage, just as it does to people of the same temperament when they are relieved of the need for initiative and its associated cares and responsibilities. The notion of monotony is a relative one. The workers who want to have their thoughts "set free" that they may think about lectures or ponder philosophical problems, are naturally in a small minority. Most of them prefer a monotony which would soon become unbearable to an intellectual, they dread mental exertion and shun responsibility. Such thoughts as course through their minds while they are at work (domestic cares, erotic expectations or memories, the next evening at the club, the contents of the sporting paper, what they saw last Sunday at the pictures, and so on, and so on) have only trickled in to fill a casual vacancy—and there is no positive sense of vacancy aroused by reflections concerning the monotonous nature of their occupation.

The tendency of many workers to think as little as possible of their work while they are engaged in it, has indeed in most instances an accessory cause—their socially determined occupational complex which, if they knew Latin, would find expression in the motto "sic vos non vobis", since they feel that they are not working for themselves but to earn dividends for others. Nevertheless, experiments in cooperative production and the ex-

perience of socialised production in Russia have shown that a great many workers, even under comparatively favourable social conditions, prefer monotonous work devoid of initiative and responsibility. My own experience among the workers engaged in motor-car making at Detroit enabled me to confirm the remarks on this subject made by Henry Ford in his book *My Life and Work* (1922). Provided the wages are reasonably good, there are plenty of workers whose dread of cares and responsibilities will lead them to prefer monotonous repetitive work to any kind of "higher" activities.

In the United States, and especially in the Ford enterprises, this inclination may be more marked than in Europe. There are several valid grounds for this. The term "reasonably high wages" has a very different meaning on the other side of the Atlantic. Although Ford is inclined to exaggerate when he compares the wages he pays with wage-rates elsewhere in the States, a worker permanently employed in repetitive work at Ford's can earn enough to live in a way which is in many respects more comfortable than that possible to many members of the European lower middle class. Furthermore, although of late years immigration has been restricted, a large percentage of the workers in American industrial centres are still at a low cultural level. On the basis of information derived from intelligence tests, American statisticians declare that in the United States there is an especially large percentage of morons, that is to say of persons who, though they cannot be classed as idiots, have not attained a level of intelligence fitting them for more than the simplest kinds of work. However much truth there may be in these figures, this at least is certain that in the United States many persons who in Europe would remain village idiots or would be found in the ranks of

the parasitic tatterdemalion proletariat, are able to earn fairly good wages in industry. On American farms, owing to the mechanisation of agriculture and to the remoteness of the farms from the urban centres, there is a considerable amount of work at construction and repair needing workers more intelligent than are needed by Ford at his "conveyor". Throughout the United States, there is a comparatively small amount of parasitic pauperism, which is mainly restricted to the years of economic crises. The upshot is that the moron as an unskilled industrial worker is a specifically American social problem.

As regards the Ford enterprises, moreover, we have to remember something which Ford does not mention in his book, although one might think he had no reason to be ashamed of the philanthropic motives underlying—or accessory to—one feature of his activities. His workshops are a favourite refuge for discharged prisoners. These unfortunates, having been habituated to hard labour in the penitentiaries, form the best, or at any rate the most long-suffering, of Ford's repetitive workers. I shall not here attempt to discuss the remoter social causes and cultural effects of Ford's and similar systems, to which another American, Arthur Pound, has devoted a book entitled *The Iron Man in Industry* (1922). Suffice it here to note that, under American conditions at any rate, there are more persons than enough whose claims on life can be satisfied by the working conditions that obtain in the Ford enterprises.

In Germany, and in Europe generally, things are not essentially different in this respect. What is characteristic of this side of the Atlantic is that here there are peculiar difficulties in the way of the stratification of occupations in accordance with capacity, because class distinctions are more stable than in America, because the hierarchical

structure of society is more rigid, because the individual has less opportunity of rising out of the class in which he was born, and because the possibilities of higher education are for practical purposes still restricted to persons of means. Many a man studies at the university and takes his degree who would be better employed at the plough-tail or standing beside Ford's conveyor; and many a man flutters his wings vainly against the bars of the factory cage, being deprived of social opportunities for the attainment of that leading place to which his talents would entitle him. Others, again, persons of dictatorial temperament with the manners of a drill sergeant, win an authority over their fellows which would never be entrusted to them if the qualification were a genuine knowledge of men and things. We should be wrong, therefore, to think only of the working class (as a reservoir of "human material" for social selection) when we say that in Europe, too, there are hardly more jobs of a monotonously humdrum character, than there are people who are fitted for nothing better.

At the Frankfort Labour College on one occasion, when I asked for proofs of this, I was overwhelmed with them. One instance I recall is that of a dozen workers who were occupied on time wages in the nailing up of boxes, an extremely monotonous repetitive task. One day they were asked to repair a number of boxes. This was comparatively skilled work, and was certainly more diversified. The time rate of wages was unaffected, and the workers could have taken their ease about the job, but only one of them was willing to put his hand to it. Although a belief that the boss was up to some trick or other was alleged as a ground for the refusal, the real reason seems to have been merely that the change of occupation would involve too much trouble.

In this connexion, consider the following expression of opinion by the writer of one of the reports, a skilled worker whose occupation is the repair of telephonic and telegraphic apparatus (case 51): "I believe that a lack of culture and of community sense explains why most workers have so little mental interest in the work of production. I think that today only a very small proportion of persons have a capacity for finding joy in their work. Those who can do this are scattered among all strata of the population. The great mass of men, however, are quite indifferent about their work. We see this even in those occupations where the worker still manufactures a complete article. Hence it seems to me that a change in working methods would not bring about any change in this respect. For, first of all, such persons do not see the social necessity for work, and, secondly, they have no sense of moral responsibility as producers. There must be a change in men, not in methods. We must have recourse, as I have already said, to education, which will certainly react upon the worker's attitude towards his work." Let me say at once that I regard this utterance, not so much as objectively demonstrative, but rather as subjectively characteristic. It is too strongly coloured by the sense of superiority appropriate to a highly skilled mechanic in a great enterprise employing workers of very various kinds, and also by the disillusionment from which a socialist idealist suffers when he makes acquaintance with the realities of mass life, to be accepted at its face value. But it contains a kernel of truth, and variations upon the same theme are to be found in most of the reports.

From the outlook of what Ibsen calls "the ideal demand", all these things may seem profoundly discouraging. But from the outlook of the most pressing task of our own day, which is to ensure that every human

group possessing needs of a particular grade should be enabled to satisfy these needs as well as possible under extant social conditions through opportunities for productive work, the very experiences of Ford's enterprises justify a meliorist if not an optimist view. Fordism is certainly better than the antecedent pauperising philanthropy, which created or maintained a parasitic stratum of poor; and even though we may be depressed when we compare the actualities of Detroit with William Morris' imaginary picture of a future society, we cannot but be enheartened when we think of the English workhouses and sweating shops of a century ago, and compare these with the actualities of Detroit. This period of capitalism has certainly marked an advance.

No doubt it is useful to regard such problems from the elevated standpoint of an absolute cultural ideal, but such Pisgah-sights must not be made a pretext for evading the immediate practical problem—which is, to ascertain how, under extant social conditions and with extant human beings, we can best avert the most poignant sufferings and the most crying injustices. The conclusion is forced upon us that, apart from all other eminently desirable social changes, on the basis of actual possibilities as regards work and workers there can be no problem of greater urgency than that of how to effect a more rational occupational selection. How can we best put the right man in the right place? Or, to put it more modestly, how can we best ensure that this particular man shall be helped to find his way into the least unsuitable place? The most pressing need is that we should be able to send those who lack initiative and those who shun responsibility to their places beside the conveyor, those with skilled hands to the engineer's bench, those with active intelligences to work at machines where intelligence

will have full scope, and those who are born leaders to supervise the working of industrial or social groups. But, before all, we must avoid approaching this problem in the patronising spirit of the welfare worker. Too much "uplift", and too much tutelage, have, under the mask of science, under the banner of psychotechnics, created the very worst of our difficulties, among which bureaucracy and officialism in industry take the premier place. To get rid of the hindrances and inhibitions thus created, is the first thing we have to do—no more, and no less. As regards this part of the task (which can most readily be solved by the employers, and must be solved by them if it is to be solved without extensive social convulsions), Henry Ford has made an apt observation. His criticism of the spirit of subordination, militarisation, and bureaucratisation in industry, and the principles by which he is guided in the matter of choice and promotion, are worthy of careful consideration, no matter how much we must deplore his complete failure to understand the general social and cultural aspects of the problem.

All this, however, leaves untouched the far more comprehensive question as to the cultural effects of a system which is based on a severance of the aim of work from the aim of life. In the repetitive worker, this severance is not manifest only in the exclusion of initiative and the withdrawal of attention. We see it also in his attitude towards the product. The worker's interest in the product of his labour is already impaired by many other factors, such as the division of labour, the lack of a personal economic interest in output, etc.; and the withdrawal of attention during the performance of the work threatens that interest with complete annihilation. The product then becomes for him a mere quantity, a measure of the amount of his wages. The worker who is engaged exclu-

sively in repetitive work, comes to regard the apparatus he is using from an utterly selfish point of view, looks at it only in relation to the wages it will enable him to earn; in all other respects, its functioning is a matter of indifference to him.

Here we touch the core of the problem of contemporary civilisation. Pessimistic conclusions are inevitably forced on one who holds, with Ruskin: "It is only by labour that thought can be made healthy, and only by thought that labour can be made happy; and the two cannot be separated with impunity." Nearly all contemporary disquisitions on work and culture set out from this basic formula.

But the man who both acts and thinks has an instinctive desire to find a meaning in his activities, by directing them towards a goal of communal aspirations; and such a man therefore rises in revolt against the pessimism induced by the contrast between the Ruskinian principle and social actuality. Our healthy urge towards optimism constrains us to seek a way of escape from the tragical conclusion that every technical advance betokens a cultural retrogression. For my part, I believe that there is a way out of the difficulty, though it is not easy to follow, and does not lead quickly into the land of the ideal. When we look more closely at the two elements of the contrast, the cultural ideal and the data of reality, we perceive that they are less irreconcilable than they appear to be at the first glance.

As regards the principle of the unification of thought and work, Ruskin's formulation, taken literally, is unduly absolute, and its actual validity is far less extensive than might be supposed. It is the typical utterance of an intellectual, for the premise upon which it is based applies exclusively to creative mental work. Whether in its plan

or in its execution, creative mental work alone is innately initiative. For that reason the intellectual is inclined to regard it as impossible to find happiness in any kind of creative activity other than that which is the conscious realisation of a self-chosen aim.

Yet in truth, there have always (even in the vaunted Middle Ages) been branches of production for which nothing but routine manipulations were needed; just as there have always been producers who found satisfaction in work of this kind. Consider, for example, the repetitive character of women's housework, that work which makes up a notable proportion of all the activities of mankind —cleaning and dusting, cooking, washing and ironing, the washing-up of crockery, sewing and mending, etc. Apart from the gradual exclusion of baking and spinning from domestic occupations, we can say that for centuries there has been very little change in such occupations. Today, as long, long ago, women turn their hands mostly to repetitive occupations. Inherent in production by the division of labour, and inherent in the differences between human capacity, there is a great gulf fixed between the guidance of work and the performance of work. Industrial capitalism has merely widened and deepened that gulf by seeing to it that most of the work which is done on one side of it, most of the work which is mere performance, shall be detail work and repetitive work. Enough has been said as to the disadvantages of this for the persons chiefly concerned. But the losses are to some extent set off by gains, namely, by the possibility of carrying out the less agreeable tasks and those in which there is least scope for initiative with the aid of automatic appliances which save the worker from having perpetually to renew his initiative and to keep his attention ever on the stretch.

What would be an unqualified misfortune for the creative mental worker, is not an unqualified misfortune for all human beings. The industrial productivity which is requisite for the gratification of extant mass need is only rendered possible by the fulfilment of tasks which cannot be fulfilled in any other way than by repetitive work on the large scale; and they are tasks which (once more owing to the limits of productivity) cannot suddenly or wholly be entrusted to machinery. On the other hand, there have always been persons, and very many of them, who have neither aptitude nor wish for initiative work. These persons, too, aspire towards happiness. Such persons, naturally, seek their happiness outside their work. The greatest happiness their work can give them is not its course, but its purpose; the recognition of it as a necessary means of earning a livelihood; and, when the moral sense is sufficiently developed, the feeling that it is the fulfilment of a duty for a more or less widely conceived social environment—ranging from the family to the community at large.

In these circumstances, the happiness of such persons is promoted when their labours are eased by making them a matter of habit—and this is the ultimate significance of the whole mechanical development. Now, the characteristic of habitual action is the exclusion of initiative and the withdrawal of attention; and the withdrawal of attention from their work enables these persons to direct it towards matters that lie elsewhere.

For intellectuals, whose work is mental creation, that is to say the highest form among the activities that confer happiness, this would be a disaster. But for the factory worker, to whom physical toil is an inescapable destiny, it may present itself as an escape from something worse, an escape from a condition in which the work

(owing to immoderate duration, and to the excessive physical exertion it demanded) was just as unspiritual, and, furthermore, exhausted the body, leaving no scope for the satisfaction of any other needs than those of sleep, hunger, and the sex life. It is indisputable that neither the proletarian of 1850 nor yet the proletarian of 1927 in any way corresponds to our ideal of the civilised man. But it is equally indisputable that between 1850 and 1927 the mechanisation of production (with its accompaniments, an increase in productivity and a rise in the standard of life) has rendered possible, for a given output, a shortening of the working day and a reduction of physical fatigue, and that these two things represent the indispensable preliminaries for a decent human life. Even if we agree that the worker of 1927 who stands beside a conveyor, finds less gratification in his work than did the worker of 1850 who used to mind some kind of machine-tool; it remains true, none the less, that the general condition of the worker of 1927 as compared with that of the worker of 1850 has changed very much for the better, in a way which implies an enormous advance in civilisation, were it only on account of the reduction in the hours of the working day.

The psychological lever which has brought about this advance consists in the fact that, during the period we are considering, the worker has discovered, expanded, and cultivated a number of needs lying outside the sphere of his daily work. In the actual social conditions of the period, no other lever than this was possible. We might, of course, for argument's sake, conceive the occurrence of some sort of ideological epidemic, thanks to which the workers of the early days of industrial capitalism might have been led to find in their work a full satisfaction for all their vital needs. Supposing this

had happened when the working day ranged from twelve to fourteen hours, when no restrictions were imposed upon the labour of women and children, and when the factory workers were practically defenceless against the onslaughts of capitalist exploitations, what would that have signified? From the outlook of public health, it would have signified mass murder, owing to an increasingly rapid physical degeneration of the workers; from the outlook of the economist, it would have signified the arrest of any endeavour to increase productivity, were it only because the home demand would have been so greatly restricted; as far as the possessing classes were concerned, it would have signified the removal of all obstacles to the basest greed for profit, and to the most brutal lust for power—and this would scarcely have tended to promote the advance towards a higher type of civilisation!

The direction of the mass needs towards spheres of life outside the daily work is, historically regarded, not the cause, but the consequence, of a loss of joy in work, as the outcome of specific social and technical conditions. Consequently it implies nothing other than a diversion of the impulse to happiness from a barricaded domain to another one that is more easily accessible. That which for intellectuals would denote a lowering of the standard of life, denotes for the workers the transition from a state in which cultural needs are practically non-existent to one in which they have begun to appear in a somewhat rudimentary fashion.

The psychological mass effect of this shifting of the sphere of needs, is, in its remoter consequences, comprehensible only to one who realises that, essentially, we are concerned only with varying forms of gratification of the same elementary instincts and the same customary

claims on life. The main thing is that these instincts should not undergo atrophy, that these claims should not be reduced, for they give the impetus to that cultural progress whose essence is an improvement in the quality of the mass needs.

The delights of the petty-bourgeois substitute for culture to which, during the last decades, the workers have secured access, are, indeed, pitiful enough when compared with the ideals of a true culture. Nevertheless, this conquest is of great social and pedagogical importance; it is the most important social phenomenon of the last half century, for it represents the expression of the workers' spiritual impetus, of their demand for equal social rights, of their increasing sense of human dignity. It is natural that this movement should have taken the line of least resistance. The happiness which could no longer be found in work, was sought elsewhere. To quote Hellpach's phrase, exopony (the extra-occupational tendency towards happiness) became a compensation for the thwarted endopony (the intra-occupational tendency). In this way the impulse towards happiness was saved from an atrophy which would otherwise have been inevitable.

The secondary effect of this development has been that the worker, having at length made his appearance as a consumer in the domain of cultural values (though only at their lower levels) has come to make higher claims on life as a producer as well. One who is a citizen and a human being outside his daily round of toil, naturally aspires to be a citizen and a human being also when he is at work. Thus, in the end, the stream of the impulses which have been thwarted in daily work returns with renewed energy to wash against the dam barring its natural course. The industrial worker's growing distaste

for his occupation is itself a symptom of the growing impulse towards joy in work, an impulse which is fortified by the general rise in the standard of his demands on life. This fact justifies optimistic inferences. Quite apart from the extent to which the workers have opportunity for higher joys in work, the desire for these exists and is increasing. Even when the workers make demands which, like that for higher wages or that for shorter working day, seem nothing more than means for removing the central interests of their lives farther and farther from their work, these demands are the expressions of an aspiration which is partly determined by the thwarting of their instinct of workmanship. Thus the fundamental requisite for a renewal of joy in work, namely the longing for it, exists, not in spite of but as an ultimate consequence of the successful diversion of its constituent impulses towards domains lying outside the daily occupation.

If that be so, there only remains our chief problem, which is to discover what opportunities there are for the gratification of the impulse to joy in work. Is it true that, for what may be called technical reasons, detail work and repetitive work necessarily exclude the possibility of gratifying the highest working instincts?

As regards a part of the workers, the answer to this question has already been indicated. Technical development is manifestly leading to a more and more marked severance of the function of intellectual guidance from the function of bodily performance. The new demand for skill in the service of complicated automatic machines, is replacing the old demands upon the abilities of the body by new demands upon the abilities of the mind, and is thus creating a comparatively privileged labour aristocracy. The joy in work of the members of this labour

aristocracy is, indeed, of a different kind from that of the sometime handicraftsmen, but it depends on the gratification of instincts which certainly cannot be deemed lower than those of the manual producer. Here, too, we are concerned with detail work; but that is not in and by itself a reason for the annulment of joy in work. Among the intellectuals, who today are privileged to experience the highest creative joy accessible to man, there is scarcely one who is not, after a fashion, engaged in detail work. The days of encyclopaedic culture in a scientific or artistically productive sense, are over and done with. We have all become specialists and detail workers. But the joy of an investigator who makes a discovery in the restricted domain of his activities, the creative ecstasy of an artist who is merely a collaborator in an associative task, is not inferior in quality to that of one of those intellectual giants of ancient Greece or of the early days of the Renaissance on discovering a new theory of the universe. As we shall see, if the new type of skilled worker cannot as yet fully enjoy the higher pleasures of his work, the hindrances are social rather than technical, but all attempts to overcome them imply further technical progress.

The reports of highly skilled machine workers indicate a tendency towards a reunion of labour and thought. No doubt the joy in work experienced by the members of this labour aristocracy is of a very different kind from that of the handicraftsmen of old days. The machine worker who supervises the activities of one of the modern automatic machines, is no longer himself a creator; the machine has taken over the work of creation. The human being, instead of being a creator, is a supervisor, a guider, a master, a tamer, of the machine. His joy in his work is less instinctive than that of the handicraftsman,

it is intellectual, rather, more akin to that of the civil engineer. His thoughts, like those of a lower-grade machine minder, are "freed" from the repetitive tasks of the machine; but instead of allowing himself to be lulled into slumber on this account, he must be very much awake if he is to escape being unpleasantly surprised by the caprices of the object whose activities he is supervising. In so far as his creative instincts remain ungratified in his task, he can apply them by devoting the attention liberated from the actual task of production to the improvement of working methods, to invention. Otto Kammerer's words are applicable here: "Only in the childhood of the machine are dull machine minders and machine tenders needed; the fully developed machine has no need of low-grade assistants of this kind. . . . Not the muscles, now, but the brain and the nerves must work. . . . The machine does not mechanise labour, but spiritualises it."

I know that this ideal picture of the worker as master of the machine, as civil engineer, as inventor—I know that (as I have elsewhere phrased it[1]) this transformation of every worker into an intellectual—is a Utopia which can never be realised for the totality of the workers. No matter, the practical question is whether such a Utopia is a country towards which we can travel, towards which we are actually travelling; whether it be not one of those Kantian "ideas", without which we cannot act, one of those ideas which (though unattainable) provides our activities with driving force, and directs them towards a goal. If this be so—and I believe it is so—for such workers the question of "opportunity" reduces itself to a question of the social transformation of industry in a way which

[1] Henry de Man, *The Psychology of Socialism*, p. 228. Allen and Unwin, London, 1928.

will adapt the organisation of labour to the realities of improved technique.

This does not solve our problem as regards those strata of the working class which are forced downwards instead of being guided upwards, as regards those workers who are engaged in the duller kinds of repetitive occupation. This cultural problem would not be solved by the realisation of Henry Ford's ideal, by a process of skilful selection which should allot these dull repetitive tasks exclusively to workers who were fitted for nothing better. This would only bring us face to face with the graver problem as to the general, social, hygienic, and cultural effects of a method in which the major part of productive industrial work would be carried out by persons who, in the spheres outside their daily round of toil, would only cease to be working beasts in order to become pleasure-seeking beasts.

American industrial life shows us that this problem has not an exclusively academic significance. In the United States, although general wellbeing stands at a high level, this is set off by a levelling down of intellectual aims, by an alarming philistinism in cultural matters, and by a standardisation of the mass psychology. The problem is not one of those for which a ready-made solution can be found. The manifestations we are considering strike deep roots into the cultural groundwork of the time; and although the aggregate will of our race can affect them, they cannot be notably influenced by the deliberate and fully conscious scheming of individuals.

I can do no more, therefore, than point out a few facts which make a favourable solution appear at least possible.

The first of these is that habit formation can be used to extend the range of culture. What applies to work,

applies to life in general; it is the rendering of numerous actions habitual that makes the life of a civilised and cultured human being possible. Habit formation in order to render certain daily movements and series of movements automatic, is the labour-saving principle, in virtue of which we are enabled to set free a certain amount of energy and time for higher purposes than the gratification of the most elementary vital needs. Few people realise how many of their actions are automatic and habitual, although a comparison of their own behaviour with that of a little child learning to walk, eat, speak, and dress, might enlighten them. If all our actions demanded initiative, if each one of them had to be thought out anew and to be guided by fully conscious purpose, a man would not be able to finish dressing himself and eating his breakfast until late in the evening; and merely to jump out of bed and to stand up as a preliminary to putting on his clothes would involve, morning after morning, the difficult task of learning to keep his balance. The automatisation of most of the actions which we have to perform day after day, is an essential preliminary to a life in which we can attend to the higher requisites of culture. As William James writes (*Psychology*, vol. I, page 122), "The great thing, then, in all our education is to make our nervous system our ally instead of our enemy. It is to fund and capitalise our acquisitions and live at ease upon the interest of the fund. For this we must make automatic and habitual as early as possible as many useful actions as we can. . . . The more of the details of our daily life we can hand over to the effortless custody of automatism, the more our higher powers of mind will be set free for their own proper work."

The same thing applies to professional work, unless

we wish the whole of our lives to be given up to labour. We may like it or not, but we cannot deny that, in contrast with the old days of peasant and handicraft production, the modern methods of the division of labour have provided, not only for the industrial worker, but for *all* men and women, increased possibilities of, and an increased impetus towards, cultural aims whose gratification is to be found outside their own work. In an era of machinery and the world market, a man's own work can no more gratify his spiritual demands on life, than the products of his own working activities can suffice to satisfy his material needs; the bootmaker can no more live exclusively to make boots than he can live exclusively on boots. One who fails to understand this, is incompetent to understand any of the trends of contemporary civilisation, whether it be sport or the labour movement.

To be quite frank about it, Ruskin's principle that joy in work depends essentially upon awareness of the technical aims of labour and of the working appliances, is false. At any rate, it has ceased to be valid as regards modern industrial production. It applies only to a kind of production which is so purely individual that the highest productivity (the term "highest" being used both in a qualitative and in a quantitative sense) results from the concentration of attention upon the product in course of formation. Of this kind of production, the work of a handicraftsman who works directly for the consumer is typical; and it was such handicraftsmen of whom Ruskin was, in fact, thinking. Psychologically as well as materially, the product which leaves the workshop ready for use is the end and aim of production; and the handicraftsman's sole concern is the effective fulfilment of a preconceived concrete working aim.

Industry carried on under the sign of the division of labour, has an entirely different character. In an economic sense, this labour is already socialised. Even from the employer's outlook, production is not directed towards the product as an end in itself; the immediate aim is a price, a sum of money, which is, in the last resort, the expression of an anonymous social need. For the worker, who has no general outlook on the process of production as a whole, the aim of the work is his wages, which are likewise socially determined. This motivation, and the resulting competition, introduce a new aim: that of quantitative productivity. As regards the technical task of labour, a rational aim (a measurable quantity) replaces an ethical aim (a valuable quality).

From the outlook of psychological purposiveness in the performance of labour, this seems, at the first glance, to be a degradation of motive, to be a loss in the moral and cultural sense. On closer inspection, however, we discern a compensation for the loss, or at any rate the possible beginnings of a compensation. If the technically despiritualised labour is still to have a significance for the worker (and we have seen that the impulse to find such a significance cannot be suppressed), the significance must be found in something which attaches, not to the particular product, but to the social need it can fulfil. In its most elementary form, this purposiveness appears as productivity, as the utmost possible yield per working unit.

Such an idea, even in its primitive form, even when the worker is selfishly regardless of any thought of the product, may introduce a new element of working interest, namely a pleasurable search for more rational, more convenient, more economic ways of working. Even towards the simplest and most unspiritual kinds of repetitive

work it is possible to adopt an attitude facilitating the experience of that paradoxical kind of joy in work which arises when the worker cudgels his brains to find out how the burden of toil can be still more effectually lightened. This involves at least a possibility of compensating for the lack of the instinctive joy of creation to some extent at least, by a joy of another kind and of a more intellectual origin. Of course, this applies only to some of the repetitive workers, to those in whom thwarted initiative finds vent in the spirit of invention. Workers with such talents (Ford tells us there are too few of them) belong to the class of persons who seek and deserve promotion. The endeavour to ensure higher productivity has at least this benefit, that it provides an intellectual aim for the repetitive workers who are fitted for other kinds of labour, and provides a means whereby they can be sifted out. To such workers, repetitive work is, at worst, a purgatory; it can never be an inferno.

Fortunately, the natural striving towards productivity may have other consequences, of a more general and more spiritual kind. The aim of increased productivity, although it is usually formulated in purely rationalistic terms, is by no means so unconcerned with ethics as it appears. For persons whose intellectual faculties are enlisted in the task of production, it entails (were it only because of the compulsion they are under to produce something that shall be usable) an element of need to do work that shall be qualitatively good—and the effort to do work of good quality is the purest expression of the spirit of workmanship, is a form of community feeling. But even when this motive is entirely excluded, in the worker's mind the aim of productivity remains inseparable from the aim of social utility. The conviction that their work has social value, underlies all the demands of the

organised workers, from the demand for a just wage upwards. This conviction is not lacking even among those workers who are at the lowest level of culture, and who are most "indifferent" towards the avowed aims of the working-class movement. (Those classed as indifferent are as a rule only discouraged.)

That very socialisation of production which has deprived the motives for the performance of work of most of their old personal ethical value, provides the possibility of giving work a new ethical aim; a social one. This aim may be considered higher rather than lower than that of the handicraftsman. At any rate, it implies a higher degree of conscious purposiveness. It tends to become detached from the individual instinct of self-assertion, tends to become deindividualised, tends to be transferred to the wider, more sublimated concept of the general need. No doubt the imagery of this aim is less vividly coloured, more obscured by the haze of distance, than was the imagery of his aim for the handicraftsman who lived in close daily contact with the "community" for which he worked; but the community for which the modern worker would fain work has grander lineaments. The difference between the social comprehensiveness of the handicraftsman's and of the proletarian's working aims is akin to the difference in size between the medieval town or village community and the modern world market.

For the very reason that the new aim has such vast proportions, it is very faintly tinted. It is but a vague and speculative sketch, to which the live colours of affective faith are still lacking. A minority of the workers have already, indeed, an ideal of humanity; but the masses still lack a religion of humanity, still lack a passion for humanity. The masses have for the most part lost faith in

the catholicity of the Church, without gaining an adequate faith in the catholicity of socialism. Yet, though the outline of the intellectual framework be all that is so far visible, the affective picture will grow plainer as time goes on. The difficulties to be overcome are social rather than technical. The concept of the unity of the world market must become a living economic and political reality; the democratic principle of self-determination must find expression in all communal institutions and social groups, from the workshop community upwards; among the intellectual leaders of production, the motive of gain must be replaced by the motive of service.

Now, can we conceive, under any social conditions, an ideal state of affairs in which work would be a purely automatic and habitual activity, demanding no other satisfaction than the consciousness of the fulfilment of a social duty?

The restriction of totally uninitiative repetitive work to certain branches of industrial production (excluding domestic occupations, agriculture, personal services, and, in industry, the functions of intellectual leadership and of craftsmanship) indicates that we need not, as yet, trouble ourselves about a day when we shall all have to stand beside a conveyor. If that day should ever come, no doubt people would work much in the same mood as that in which nowadays a man shaves; the performance of a brief daily task which is done because it had to be done as a social necessity, humming a tune perhaps, and thinking of other things, before one proceeds to more important and more pleasurable occupations. By such an extreme perfectionment and so wide a generalisation of mechanical methods as would be implied by the universalisation of the "conveyor" system, productivity would be intensified to such a pitch that the necessary labour time could

perhaps be reduced to a few minutes a day, and the problem of labour would be no more serious than is today the problem of shaving. Our days could then be filled with arcadian and peripatetic joys; the world would have become a greatly improved Athens, with machines as slaves. Two thousand years ago, Antipater of Thessalonica, a Greek poet of Cicero's day, acclaiming the invention of the water-wheel for grinding corn, as the giver of freedom to female slaves, prophesied the coming of the Golden Age in words which Karl Marx quoted in the first volume of *Capital*, and which I will quote here in Paton's translation: "Cease from grinding, ye women who toil at the mill; sleep late, even if the crowing cocks announce the dawn. For Demeter has ordered the nymphs to perform the work of your hands, and they, leaping down on the top of the wheel, turn its axle, which, with its revolving spokes, turns the heavy concave Nisyrian millstones. We taste again the joys of the primitive life, learning to feast on the product of Demeter without labour."

Let those whose taste incline them that way, amuse themselves with such day-dreams. Persons who are fonder of action than of dreaming will be less inclined to sketch Utopias than to study extant evolutionary trends and to open accessible trails. This much, at least, is indisputable. The automatised industrial occupations need only imply a complete severance of the aim of work from the aim of life when the aim of the work is itself completely divorced from the motive of social utility (even in the subconscious form of a habitual moral standard). Automatisation, thanks to which the repetitive worker, above all, is spiritually detached from his task, can be freed from its morally undesirable consequences when the social conditions are such that even a repetitive worker

can regard his work as a social duty. Community feeling can build the new bridges which will connect the repetitive worker with his work once more.

If this respiritualisation of automatised work by filling the worker's mind with a consciousness of its social aim is to become a mass phenomenon, there will, of course, be requisite the fulfilment of a series of social conditions which will enable the worker to look upon his activities as performed on behalf of the community. In extant social conditions, the outcome of the general trend of cultural enlightenment (giving people a critical insight into the nature of institutions which were formerly supposed to be divinely ordained) is tending to make the mass of the workers more and more sceptical as regards the sincerity of those who urge him to produce more for the sake of the communal welfare. A still greater reduction of working hours, a further lessening of fatigue by mechanisation, an intensification of the will of the workers towards self-determination by means of the trade-union struggle—phenomena which at the first glance might seem likely to increase the spiritual detachment of the worker from his work—may show themselves in the end to be means for bringing about a reunion, at a higher level, of the aim of work and the aim of life. For they are the prerequisites to that rise in the standard of needs which can alone save the repetitive worker from becoming a wholly automatised human being.

But the problem of the industrial repetitive worker is only the accentuated form of a problem which forces itself to a greater or less extent upon every one who has work to do. Thanks to the division of labour inseparable from capitalism, there is a steadily increasing number of persons whose working experience can be only a fraction of their ethical community experience. In all strata of

the population, we find that more and more "exoponic" claims are being made on life—claims for the satisfaction of needs that no longer find satisfaction in productive work.

The general rise in the standard of life which causes this exopony is not a purely quantitative one. Those who look only at the surface of things are apt to regard as a backsliding from culture much that should in truth be primarily appraised as a symptom of a social expansion of the domain of culture. People are too ready to compare the mass phenomena of today with phenomena in former times which were peculiar to a leading group. The contentment of the masses, which saved the aforetime leading-class culture from vulgarisation by diffusion among the masses is too readily idealised. Looking through the spectacles of the present, people regard as a virtue that which in most cases was nothing more than a dire necessity, was nothing more than spiritual impoverishment. They fail to see that a rise in the standard of mass demands has, even when these demands are purely material in their objective, its ultimate psychological ground in the increased self-respect of the masses. A higher sense of self-esteem is not in itself necessarily ethical (not unless it is accompanied by an increase of community feeling), but it is an essential preliminary to the development of a higher moral standard. The disintegration of the old canons of faith by the critical reason, the decomposition of the traditional communal ties by individualism and rationalism, all the intellectual unrest of our epoch, may well prove transitional towards a new and higher communal culture, rather than signs of decay. A severance of thought from work may signify that the aim of life has become more important than the aim of work. It may be an element of freedom which, like new freedoms in general, we do not yet know how to

use rightly, but which we must learn how to use instead of rejecting. The time is ripe for asking how a temporary disadvantage may be transformed into a future advantage; and we must ask this question in a very different manner from the cultured of today, who are wont to criticise the masses' aims in life without considering their historical origin.

When the average intellectual of today shows enthusiasm for the peasant and handicraftsman of the pre-capitalist era, and even for primitive man, this is not merely a reaction against rationalistic specialisation and the triviality of contemporary culture; it is also in great part conditioned by an unconscious social pride, and by an instinctive impulse towards safeguarding the cultural privileges of the intellectual. These enthusiasts for the Middle Ages are far too apt to forget that the peasant of those days was practically nothing more than a working beast, and that the handicraftsman was as a rule only a narrow-minded and commonplace fellow. The belief in the endopony of the medieval craftsman probably contains a large measure of illusion, and is the outcome of a natural tendency to project the wishes of the present back into the past. The human mind has always been most hopelessly enmeshed in philistine trivialities during historical periods when life has been wholly concerned with the task of material production. The cultivation of science, philosophy, and art, presupposes a certain degree of enfranchisement from the coercion of work. In virtue of an amusing contradiction, most of the enthusiasts for the Middle Ages are likewise enthusiasts for the culture of classical Greece, although the essential foundation of the latter was the liberation of the aims of life from the aims of work. The spiritual enlargement characteristic of humanism was not the work of handicraftsmen and peasants; it was only rendered possible because a stratum

of cultured specialists had become established upon the ruins of the medieval system. Thenceforward the handicraftsman, however perfectly he may have filled the sphere of his work, had culturally speaking become a partial human being, a plant growing in the shade. Henceforth he was but a petty bourgeois in a society filled with the expanding cultural ideals of the developing great bourgeoisie. Hans Sachs, shoemaker and poet, was a poor sort of poet, and was probably none the better shoemaker because he wrote verses. The post-medieval era unfortunately gave us the industrial proletariat; but at the other end of the scale it gave us Michaelangelo, Rembrandt, Kant, Goethe, and Beethoven.

Thus the phase of evolution we are considering has its good sides as well as its bad ones. Its worst feature is that it has developed a class consisting of the most useful producers who have to bear the brunt of the disadvantages, whereas (in a sense for that very reason) the others do not yet know how to make a good use of the advantages. Once this state of affairs has been remedied, we may find that the forces which have primarily been so destructive (critical rationalism, the impulse towards self-determination, a new sense of equality, labour-saving mass production), can in due course become the foundations of a new and better civilisation. Then, perhaps, we shall see, that technical progress is only a cultural problem so long as it is in its early stages. As soon as machine production has developed far enough to be taken as a matter of course by every one, the problem as to the aims of life assumes an entirely new aspect inasmuch as there is at least a possibility of enfranchisement from that obsession with the material which poisons contemporary bourgeois culture. The burden of work can be lightened by reducing it to the socially necessary minimum, and by

simultaneously making social need the organisational basis of production. This will be the best way of providing abundant compensation for the loss of the manually creative element of joy in work, by introducing a mentally creative voluntary element and by encouraging the growth of an ethico-social sense of duty.

Of course this does not mean that, even so, we shall be able to scud before the wind into the haven of Utopia. We shall still be faced by a fundamental problem: the increasing differentiation of the mentally creative function from the function of bodily performance, tending to produce a new social stratification and new conflicts of social will. It seems likely that the contrast between mental workers (including the upper strata of the contemporary working class and the officialdom of the labour movement) and manual workers will mark out the clearest line of social division in the future. We may, indeed, console ourselves with the idea that social conflicts, since they will no longer depend upon differences in the matter of possession, but on differences in the matter of working function, will be transferred to a higher plane; will, as regards the possibility of a transformation of the motives of groups contending for influence, provide so to say a more favourable battle-ground than that of the extant struggle for the means of livelihood. But why should we cudgel our brains about the troubles of tomorrow and the day after, when we have more urgent problems of our own to solve? Indications of the ways in which, here and now, we can make our contemporaries happier, are worth more than pictures of a utopian future which are often nothing more than opiates to induce agreeable day-dreams. For the solution of today's problem we need only the actual knowledge of today.

d. Hypnotic effects of rhythm. No opinion regarding the psychological effect of repetitive work can be more than fragmentary so long as the question of the working of rhythm is ignored. In part, no doubt, this matter of rhythm has to be considered among the factors that promote joy in work, and I have already touched on it in this connexion; but I have postponed the main discussion of the topic to this place, not only because it fits in better here, under the caption of repetitive work, but also because the unfavourable effects predominate over the favourable.

Not all repetitive work can be adapted to a rhythm, or at any rate to a "natural" rhythm—meaning by this a rhythm which, like that of vocal music, can be fitted to the cadence of the naturally rhythmical movements of human beings, such as the pulse, breathing, the movements of walking and running, etc. Should the repetitive work be too slow in its tempo (for instance, the reiterated painting of the same miniature picture on pottery), too comprehensive in the number of the various successive movements (as in packing and addressing parcels), too much dependent on mechanical vicissitudes occurring at irregular intervals (like the tying of broken threads in the process of power-loom weaving), too swift in its tempo (any sort of work that is unduly speeded-up), or restricted to some exceedingly elementary operation repeated at considerable intervals (like those performed by a worker beside a conveyor, who has only from time to time to stick on a label)—then the rhythm ceases to have a musical effect, and the appropriate psychological accompaniments are lacking. The best practical touchstone to show whether the intervals or phases (be they regular or irregular) of repetitive work can have a rhythmical effect, is (as in the case of music generally) the question whether one could sing, whistle, march, or dance in time

to them. Here we are concerned only with a rhythm which is musical in that sense.

Without entering too far into this difficult borderland of physiology, psychology, and aesthetics, we must distibnguish etween two different effects of rhythm. I may term them the hypnotic effect and the aesthetic effect.

From the outlook of the theory of musical aesthetics, the hypnotic influence of rhythm, the influence which overcomes conscious inhibition and thus increases affective suggestibility, thereby promoting associations of feeling and impulsively spontaneous voluntary ideas, is an integral constituent of the aesthetic effect. In the practical experience of working life, however, the outcome of this hypnotic influence is very different from the outcome of the aesthetic influence. The former puts the consciousness of the activity to sleep, whereas the latter intensifies that consciousness.

In industrial work, the hypnotic effect is far the most important. It speedily manifests itself in connexion with the simpler kinds of rhythmical movements, whereas the aesthetic effect requires more complicated conditions. A slight degree of hypnotisation by rhythm is a sort of transition to the first stage of sleep. It blunts that part of the consciousness upon which deliberate voluntary activity and attention to one's own movements depends, with a consequent removal of the inhibitions which would otherwise interfere with the unrestricted course of automatised customary impulse. The rhythm of repetitive work directly suggests automatism; it is the preeminent psychological adjuvant for the prevention of those kinds of fatigue which originate in the conscious, which are due to overstrain of the attention, to repeated acts of choice, and so on.

So long as this rhythmical hypnotism goes no further,

so long as it does not become a permanent feature of the worker's life, it renders possible an increase of output without an increase of fatigue, and is therefore at least spiritually harmless.

But in the case of a worker whose work is mainly or exclusively repetitive, that limit is usually transgressed. This results in a blunting of the intelligence, in a decay of the mental impulses, as compared with the instinctive and customary impulses, a blunting or decay which may be best compared with the mental hebetude of the drug addict. An extreme instance of this will be found in a supplement entitled *Joy in Work* issued by the New York "Survey" in 1923. It tells the story of an elderly workwoman who had for years been occupied punching holes in lampshades. She had always had to punch three holes. One fine day, the factory introduced a new type, in which four holes had to be punched instead of three. The woman was up in arms against this innovation. Her scolding and raging were of no avail, and she was told to get on with her job. She did so, but for days she continued to mutter wrathfully to herself: "Dammit! I gotta punch four holes!" Habit had become second nature.

The only safeguard against such a fate is a reduplication of the personality, such as occurred in the unskilled worker (case 3) employed as a packer, who distracted his mind from his routinist occupation that he might discuss all sorts of problems with one of his fellow workers. He quaintly phrases it thus: "At the hand level we were coolies, but at the head level we were philosophers". Thus a spiritual impulse towards self-assertion may seek in exopony an escape from the endopony of the working beast.

We may say that the rhythm of the work has an aesthetic rather than a hypnotic effect when the slight degree of hypnosis, by increasing the receptivity for

affective suggestion and spontaneous association, enlivens certain pleasurable feelings in the course of the work. Here we have something more than a mere removal of those inhibitions in the conscious which would otherwise have promoted fatigue. To the negative effect of slight hypnosis, there has been superadded a positive. Pleasurably tinged affective associations are aroused, which generate or strengthen voluntary trends favourable to the performance of the work. The simplest and most familiar example of such an effect is an increase of activity by the rhythm of a march or a dance tune. This effect may be produced in repetitive work whenever the rhythm of the work can be adapted to an imaginary march or dance. Here the psychological problem is comparatively simple. By affective association, the rhythm of the march (for instance) arouses the latent motor impulses of this habitual movement, and the impulses are pressed into the service of the task.

Such an energising of working motions is well known to be most effective when a melody that is sung, hummed, whistled, or played, intermediates between the rhythm of the natural movement and that of the working movement. That was the origin of the various kinds of labour lilts (shanties, the Hebridean songs of the cloth, etc., etc.), and of those comprehensive groups of phenomena in the history of civilisation which Karl Bücher was the first to discuss systematically in his book *Arbeit und Rhythmus*.

In manual repetitive work (or work with repetitive phases) where there is no machine-made rhythm to set the time, we often find that songs are sung as a spontaneous rhythmical accompaniment to the work.

The effect of an associated musical rhythm (with the superadded pleasurable factor of the tune) is most marked when choral singing accompanies and inspires joint labour.

In such cases, the pleasurably tinged feelings of sympathy arising out of associative activity energise all the movements, sometimes, by a natural sequence, arousing the idea of competition amongst the participators. Every one knows how oarsmen, spinners, paviors, pile-drivers, sailors, etc., sing at their work. The individual, too, finds repetitive work less monotonous when he accompanies it by singing or humming or whistling a "many-toned" melody. The kitchenmaid usually becomes most melodious when she is engaged in washing up or in some similar repetitive task; and even the most unmusical of intellectuals is apt to burst into song as an accompaniment to the repetitive activities of the morning toilet, when rubbing down after the bath, etc.

We may also be influenced (either hypnotised or energised, as the case may be) by a rhythm quite independent of our own movements, as every one knows who has been lulled or stimulated by the rhythmical noises of a moving railway train. In American workshops, gramophones have sometimes been introduced in order to increase joy in work, and have been found useful in places where there is no mechanical or technical reason for carrying on the work rhythmically. Examples of a well marked aesthetic influence of machine rhythm on the workers at these machines are that of the master machinist (case 50), who "loves the rhythm of the cigarette making machinery" although he does not apply it in his own work; that of the metal borer (case 26) who from time to time goes up into the gallery of the workshop that he may listen to the "symphony of the machines" and thus "get quite outside himself"; and that of the book printer (case 69) who grows positively lyrical in his account of the effect which the rhythm of the rotary press has upon him.

Summarising the information at my disposal regarding

rhythmical repetitive work, I may say that although at the present time it is more often a cause of distaste for work than of joy in work, there is no essential reason why it should not have the opposite effect; whether it has or not, depends upon other reasons than technique, depends mainly on social conditions. As regards the possibilities which, in this respect, the future holds in store, Karl Bücher's words are still true: "Rhythmical labour is not in itself unspiritual, but in the highest degree spiritual. . . . The monotonous work that is irritating, is the monotonous work which cannot be done rhythmically." (*Arbeit und Rhythmus*, sixth edition, page 443.)

The same author's description of the "lost world of cheerful labour" (op. cit., page 455) may provide guiding lines for the future, as well as give a true account of the past: "The political economist who enters this world for the first time rubs his eyes in bewilderment, wondering whether, by some miracle, he has been translated into the land of utopian romance. . . . Everywhere sportive pleasure, cheerful song, sociability and readiness to help —a golden age of economic childhood." Now, be it carefully noted, this world described and extolled by Bücher is not so much that of the "endoponic" manually creative industry, as that of the "exoponic", primitive, simple, arduous, intrinsically burdensome labours, which, although they cannot provide scope for the full gratification of our vital demands, could nevertheless bring true happiness to those who conceived them as duties.

3. Fatigue

It is noteworthy that the reports seldom refer to fatigue as a cause of distaste for labour. On this ground, one might at first be inclined to assume that bodily over-

exertion (at any rate since the reduction of the working day that followed the war) has now been reduced to comparative unimportance as a cause of the social discontent of the workers. There are, however, three reasons why we should be careful to avoid optimistic generalisation in this respect. First of all, the most toilsome occupations are those of unskilled or comparatively unskilled workers, and about two-thirds of the reports are from skilled workers; some of the important varieties of heavy labour, like that of dock hands and agricultural workers, are entirely unrepresented. In the second place, most of the workers engaged in arduous physical occupations are inclined from an instinct of self-assertion, and as a compensation for the lack of a demand for skill in their work, to make a parade of their strength, and this leads them to say as little as possible about fatigue, lest they should be regarded as weaklings. In the third place, we have to remember that manual workers as a rule become fully aware only of the acute varieties of fatigue which ensue upon exceptional exertion. The chronic fatigue that ensues upon permanent over-exertion, and whose consequences do not become apparent until many years have elapsed, usually escapes their notice. Thus many of the reporters, in whom the signs of the ill effects of chronic bodily over-exertion were plain enough to a keen observer, nevertheless repudiated the idea that fatigue was a cause of distaste for work.

We are therefore entitled to assume that in most workers bodily fatigue plays a greater part than might be inferred from a study of the reports on which the conclusions of this book are mainly based. But it is often difficult to decide whether the chronic over-exertion which has so obviously produced ill effects has been absolute or relative, that is to say whether over-exertion

or under-feeding has in truth been mainly responsible for things going wrong. At least half of the students at the Frankfort Labour College during the scholastic years 1924–1925 and 1925–1926 gave me the impression of having been under-nourished for years. We must also bear in mind that most of them, during their free time, had for years been accustomed to do a sometimes astonishing amount of voluntary organisational work (meetings, correspondence and minute writing, nocturnal study, miscellaneous activities on Sundays, etc.). When these workers show signs of chronic fatigue, it is extremely difficult to decide how much the signs are due to over-exertion in their wage-earning occupation, how much to the activities of their leisure hours, and how much to under-feeding.

As regards another point, however, the reports are all the more convincing. They show very clearly indeed that nervous or psychogenic fatigue is a much more widely diffused evil than simple bodily fatigue. Again and again we notice that even when the demand for bodily exertion is comparatively small, if for one reason or another that exertion be reluctantly performed, a sense of fatigue, with its customary physiological accompaniments, sets in so quickly that it may begin at the very outset of the spell of work, though it will often pass into the background after a while, thanks to the gradual automatisation of the impulses. On the other hand, work which, for technical or social reasons, is joyfully performed, may, even though it demands great and prolonged bodily exertion, induce so little sense of fatigue that the hours pass almost unnoticed.

In former times, the excessively long hours of labour were the main cause of fatigue among industrial workers; today, the main trouble is boredom. Distaste for work is

more often a cause of fatigue, than fatigue is a cause of distaste for work.

The fanatical advocates of psychotechnical experiment would do well to infer that the experimental study of fatigue, with the aid of instruments that measure it mechanically in physiological terms, can disclose only a part of the symptoms, and can put us on the track of only a lesser part of the causes of fatigue. Certainly it would be unwise to deny the value of experimental physiological study of the connections between bodily output and fatigue. Further research along these lines is eminently desirable. Still, we must never forget that such physiological observation must be supplemented and corrected by psychological considerations, for otherwise it will lead to false conclusions. Only by a combination of psychological and physiological methods shall we be able to solve the problems of the interaction between "bodily" and "nervous" fatigue. The psychotechnician, no less than the "instrumental" physiologist, still thinks too much in mechanical terms to make due allowance for the importance of voluntarist and psychogenic factors, and especially for the effects of autosuggestion upon the general psychical state. In the factory, no curve taken by the ergograph can be intelligible without reference to the spiritual content of the worker's psyche—to data whose origin must be sought quite as much in his family life, in his earlier history, and in his political and social environment, as in the immediate conditions of his work.

4. Unfavourable Technical Conditions

The following demand special mention as conditions in the material environment of the worker at his occupation which may be among the causes of distaste for work.

a. Unhygienic workshop conditions (bad air, too high or too low a temperature, excessive dampness of the atmosphere, defective ventilation, dust, evil-smelling raw materials, etc.).

b. Bad hygienic conditions outside the workshop proper (insufficient or unsavory lavatory accommodation, lack of proper cloakrooms and washing appliances, etc.).

c. Dangers attendant on the occupation.

d. Excessive noise from machines or other working appliances.

e. Poor light.

f. Lack of cleanliness in the workshop.

g. The depressing influence of an ugly and uncongenial environment. This may concern either the inside of the workshop, or its outside, or both. Among such influences must be counted the degrading symbolism of identifying the workers by numbers, the prison-like aspect of many factories and factory gates, the beginning and the ending of work to the sound of the factory whistle, etc. (In Levenstein's *Arbeiterfrage*, page 133, a Berlinese plush weaver is reported as saying: "I am whistled to and from my work, as the boss whistles to his dog.")

These causes are so familiar that it would be superfluous to illustrate them by specific examples drawn from the reports. It is worthy of note that in most instances a remedy could be found that would not entail serious technical or economic difficulties. Of course we must not overlook the fact that often enough the workers have been so much demoralised by the "occupational complex", have been so much disheartened by the unconscientiousness, niggardliness, and slovenliness of bad employers, as to give some justification for employers' refusal to improve matters on the grounds that the workers would not heartily cooperate. This vicious

circle must be broken by initiative from the workers' side as well as from the employers. In such cases the first step may be decisive. The courage for such a step would be commoner if it were not that the workers are held back as a rule by the feeling that they have no personal interest in output, and the employers by their unacknowledged dread of admitting the existence of guilt.

In addition to the foregoing effects of repetitive work, technical effects I may call them, which may as circumstances vary be either favourable or unfavourable to joy in work, I must mention a certain number of remote effects, which are exclusively unfavourable.

The worker who becomes accustomed to a particular kind of repetitive work, thereby forfeits in the long run his more generalised capacity for work, and loses his generalised operative skill (if he ever had any). Both for bodily and for mental reasons, he will find it more difficult in the future to take up any new kind of activity, than if he had been engaged upon some varied, however unintelligent, occupation. This reacts unfavourably on his chances should a change of work prove necessary. A knowledge of the fact, of the danger to which he is thus exposed, often intensifies the repetitive worker's distaste for his work.

Furthermore, a repetitive worker's more highly skilled workmates are apt to look down upon him because he is engaged in a low-grade occupation. Such a social thwarting of the instinct of self-assertion is a common factor of distaste for work in the repetitive worker—so long, at any rate, as he retains hope of bettering his position. But here we trench on the domain of the social hindrances and inhibitions which will form the subject matter of the next chapter.

CHAPTER FIVE

INTRA-OCCUPATIONAL SOCIAL HINDRANCES AND INHIBITIONS

Intra-occupational social hindrances and inhibitions must be considered under three heads: (1) Dissatisfaction with the material conditions of the labour contract; (2) Unjust wage system; (3) The disciplinary subordination of the worker.

1. Social Conditions of Labour

Rates of wages, working hours, holidays, etc., only concern us here in so far as they are conditions affecting the subjective attitude of the worker towards his work and competent to arouse distaste for it. The reports of the worst-paid workers (especially of those who come within the category of the unskilled) show that when wages are felt to be too low there arises in the worker a feeling of resentment which tinges his whole attitude towards his work. A man whose mind is clouded by the conviction that, despite arduous toil, he cannot earn enough to provide even a minimal decent subsistence for himself and his family, cannot be expected to take pleasure in his work. Although, in many such workers, the signs of under-nutrition are obvious, we need not assume that under-nutrition forms a necessary part of such discontent. The mere feeling that the wages are insufficient, is enough to annul pleasure in work. The point at which such a feeling will arise varies greatly from individual to individual, partly in accordance with temperament, and partly in accordance with previous experience.

In Germany, the standard of life among the industrial

workers was already low enough, in all conscience, even before the period of inflation with its long-lasting impoverishment. Since 1919, moreover, a realisation that the power of the labour organisations has considerably declined, contributes to lower the level at which conditions are regarded as unbearable. The student of national psychology will find it interesting in this connexion to compare the respective attitudes of German and Anglo-Saxon workers. One who, like myself, has had an opportunity of directly observing how the workers are paid and how they live in Germany, on the one hand, and in England and the United States, on the other, taking into account the quality of the food and a number of other factors not reducible to statistical terms, cannot fail to be astonished at the German workers' comparatively low standard—especially in view of the numerical strength and the ideological aggressiveness of the German labour movement. The national inclination for profundities, a proneness to consider philosophical problems rather than questions of immediate practical importance, a habit of relating every concrete difficulty to abstract coordinates, leads the militant German worker to discharge a considerable proportion of his social desires and resentments in theoretical speculations concerning far-reaching and complicated issues, and to content himself with this mode of abreaction, in cases where the British or American worker would simply say to the boss: "You must pay me more wages."

In November 1923 (when the inflation crisis had reached its climax), at a small industrial town in Hesse I delivered a course of lectures (mainly attended by workers) on social history. The discussion following these lectures turned one evening on a comparison between the joy in work felt by the medieval handicraftsmen and the

distaste for work of the contemporary factory worker. The interest in the topic was so keen that nearly half the audience took part in the discussion. It was obvious that many of the speakers had read widely and thought deeply about economic and historical problems, even if they had not always arrived at clear notions on the subject. As usually happens on these occasions, many citations were made, enthusiastic rather than pertinent, not only from Karl Marx, but also from Kant and Goethe. It might have been supposed that not one of these debaters had any other care in the world than to study and expound the workings of his own mind. At length, however, an elderly man got up and said bluntly: "Amid all these disquisitions concerning the spiritual background of distaste for work, you have forgotten to mention one thing, a gnawing stomach. There is not a single worker in this hall who has had enough to eat today. For weeks past, the depreciated paper money in which we are paid our wages every Saturday has not sufficed to supply us with bread lasting beyond Wednesday. I am much too hungry to assuage my pangs with thoughts about the Middle Ages. The reasons why I dislike my work are simple enough; an empty belly, and weak arms and legs." The speaker was obviously right. Pale and careworn faces, weary and hopeless in expression, ragged clothing, the way in which the shivering auditors crowded round the stove, were enough to emphasise his words. It seemed to me that I had been rather a fool to deal with matters so remote from the urgent problems of their lives; and I was almost ashamed because I had offered them theories instead of bread. Still, I have never had an experience more characteristic of German proletarian mentality. It was hard to say whether compassion or admiration predominated in my

feeling towards these men who wrestled with intellectual difficulties when there was an aching void in their stomachs, and who were devouring books instead of manning barricades.

A similar experience might help many a Western European or American towards a solution of the enigma, which the German labour movement offers to the Anglo-Saxon world; the discrepancy between a revolutionary ideology and a low standard of life; between the individual worker's proneness to philosophise upon political questions of worldwide importance, and his passivity as regards more immediate concerns; between the comprehensiveness of the rights of self-determination conceded by the Workers' Councils' Law, and the lack of spontaneous, actively democratic will in the workshops; between the radicalism of socialist ideology, which is directed towards the idea of a social revolution, and the moderation of trade-union practice, which in the modesty of its demands for wages lags behind what so many American employers voluntarily grant; between the emphatic insistence upon the class character of the State, and an instinctive respect for the official representatives of the State; between a class consciousness which is strongly developed as far as theory can develop it, and the acceptance in practice of a treatment by "superiors" to which an Englishman, an American, or a Frenchman would react with a blow of his fist. In the reports from German workers on which this study is based, there is a far greater tendency to treat statistical wage problems as spiritual problems, than would be manifest in similar reports by British or American workers.

In respect of working hours, it is noteworthy that not one of the reports describes the eight-hour day as too long. Manifestly the working day is only felt to be too

long when it exceeds eight hours. Among many of the railwaymen, for instance, indignation because, after the winning of the eight-hour day in the revolutionary epoch, the working hours have been again increased, is rife, and plays a considerable part in promoting distaste for work. A nine-hour working day means a very different thing according as, previously, a man has been accustomed to work ten hours or eight hours. If in 1918 the German workers had been able to secure a seven-hour day, and had the capitalist counter-offensive then compelled them to accept an eight-hour day, this eight-hour day, which they now regard as an almost ideal arrangement, would have seemed to them scarcely tolerable. The estimates men form upon these matters are to a great extent determined by suggestion, and are strongly influenced by reactions on the part of the collective instinct of self-assertion. Thus the general contentment with the eight-hour day is mainly the expression of the fact that the German working class, now forced upon the defensive, regards this as the chief bulwark of its position in the social sphere—just as in the political sphere the defence of the "bourgeois" republic has become the leading practical aim of the German social democracy.

Although there are no complaints that the eight-hour day is too long, it would be a mistake to infer from this that working hours have thereby been reduced to the point at which undue physiological fatigue ceases to occur, so that the worker can do his daily round of toil without any impairment of the capitalised sources of his energies. Disregarding extreme and purely academic instances (such as, on the one hand, working hours so long that there is scarcely time enough for eight hours' sleep at night, or, on the other, working hours so short —an hour, or less—that even the most intense bodily and

mental exertion does not arouse lasting fatigue), there is no easily ascertainable "physiological" limit to the desirable working day. Nowadays these extremes are only of theoretical interest; the actual demands made by the workers, in this matter of the length of the working day, are extremely elastic.

These demands are influenced by two kinds of factors which are not physiological, but which, in the last analysis, may be referred to psychological considerations. The first of these is the nature and the intensity of the work, and the degree to which it promotes psychogenic fatigue and distaste for work. The second is the workers' standard of life, a subjective mood which is largely determined by the degree to which they are inspired with a sense of social power. We must, therefore, guard against hasty and premature conclusions as to the likelihood that any particular concession will permanently satisfy the workers' demand for more free time.

As regards the actual conditions of the day, we find two characteristic manifestations in the reports.

a. Apart from the impulse to defend the eight-hour day —as contrasted with the pre-war period, the attention of the worker has been diverted from the problem of the duration of labour to the problem of its intensity. In other words, owing to the satisfaction of the demand for a modicum of free time, and to the consequent tendency of the employer to make a more intensive utilisation of labour power during the hours in which it is at their disposal, the question how the work is done has now become of primary importance as contrasted with the question of how long. Consequently, whereas science has hitherto treated the problem of working time and of production from a quantitative outlook, this method must now be replaced, or at least reinforced, by a qualitative

one. Thenceforward the question as to the psychological determinants of joy in work and distaste for work in the case of a given task, a given working method, and a given intensity of work, has moved into the foreground of every discussion concerning the duration of work; for it is this qualitative factor that is really decisive as regards the appearance of the fatigue-limit that is termed physiological but is in truth psycho-physiological. We find, too, in contraposition to this, that the workers' main interest as to the non-working period of the day is no longer "how much free time shall we have?" but "how shall we use our free time?" The most notable indication of this change in outlook is the growing interest in cultural questions characteristic of the contemporary labour movement.

b. The reports show that (once more, apart from the defensive struggle on behalf of the eight-hour day) the German workers' demand for more free time has nowadays turned, rather, in the direction of demanding an increase in the annual holiday, and perhaps also of something akin to the English "week-end", than towards a further shortening of the hours of everyday labour. Obviously this demand would secure far more vigorous expression if wages were not so low as to make it seem impossible to pay the cost of a change of air. In the reports, even bachelors complain that, while the yearly holiday on full pay is too short for real recuperation, they cannot spare enough money for a holiday journey even during this short period. In such circumstances it is not difficult to understand that the favourite, most convenient, and cheapest form of workers' holiday must be to report as sick, or to go on unemployed pay for a time during a change of job. A counterpart of this is, for many workers, as an occasional interruption of the daily round

of toil, the flight from the collective, organised, and disciplined boredom of the workroom, to a boredom that is at any rate individual and "free"—in the latrines, where a man can at least smoke a cigarette. Many workers, thirsting for freedom, must, for a daily paradise, content themselves with a privy that is usually foul and stinking; and, for a yearly paradise, must content themselves with the waiting-rooms of the panel doctor and of the local trade-union or friendly society branch. Could we find a more striking condemnation of existing conditions, more potent evidence in support of the contention that a mere reduction of the working day will not be enough to furnish a satisfactory solution of the main problem of the workers' distaste for work?

2. Unjust Wage Systems

Apart from the actual rate of wages, unjust wage systems are a frequent cause of distaste for work. There is much in the reports to show that the widely prevalent dislike of piecework and premium bonuses is mainly due to an instinctive feeling that such methods of payment are essentially unjust, rather than to an unsatisfied acquisitive instinct or to any hostility to greater exertion as such.

Sociologists have not as yet paid sufficient attention to the attitude of workers towards wage systems. Year after year in Germany there are issued from the press at least a dozen books dealing with theories of value and kindred topics, in which, for the most part, the old grist is reground into a new and jawbreaking terminology. But there is not as yet a single book on the urgent practical question which dominates the daily lives of millions of human beings; the workers' attitude towards the way in which

their wages are determined. And yet the history of wage struggles and collective bargains, the minutes of trade-union conferences, the reports of official inquiries, propaganda pamphlets and periodical literature, provide an abundance of historical material earnestly in need of systematic study; to say nothing of the topical information which could be obtained by the direct questioning of the persons mainly concerned. Any one who would take the trouble to cultivate this field of inquiry, would be able to make a most important and interesting contribution to our knowledge of the changes that have gradually occurred in the notions of equity prevailing among the workers of various countries at various times. Such an investigation would throw much more light upon the ethical, affective, and ideological motive forces of the labour movement, and upon the development of socialist concepts, than could a hundred learned treatises on the correct interpretation of Marx's utterances concerning the labour movement—penned in days before the labour movement existed. The majority of sociologists, however, would seem to regard such researches as too difficult; and they are certainly far more difficult than those theoretical speculations which take the form of hair-splitting and juggling with terms.

Even the workers, whose personal interest in the matter is so direct, trouble their heads little about such questions of principle. As far as the socialists among the German workers are concerned, Marxism has led (at any rate since the close of the Lassallist episode) to a remarkable shifting of attention from questions of immediate practical importance and from ethical fundamentals to the cloudy realms of metaphysical and inconsequential theory. The average student at a socialist Labour College can make one's head reel with his disquisitions on historical

materialism and the Marxian version of the Hegelian dialectic, but his theoretical knowledge does not help him to a sounder judgment about the practical concerns of his daily life, in the workshop and elsewhere. Only in Cuckoo-Cloudland, does he set his reasoning faculties to work, and sometimes strangely enough; in the domain of practice, and especially of trade-union practice, his actions are determined by the most irrational instincts and traditions. This accounts for the ideological weakness of the German trade-union movement, which, notwithstanding its copious expenditure on behalf of scientific and cultural aims and its comprehensive literary productions, has hitherto done so little to direct its energies by the light of knowledge concerning its own institutional actualities and activities.

Among these actualities, there is none which would do more to illustrate the formation and growth of workshop ethics and of the workers' conception of the rights of labour, than the history of the trade-union attitude towards the problem of the method by which wages are to be paid, and especially towards the old bone of contention as to whether wages are to be paid by the piece or by time. I need hardly say that this history should only be written by some one competent to understand the psychological roots of the mutual interaction between social relations and social motives. Such a writer will recognise, for instance, that the original proletarian objection to payment by piecework rates (in the early days of the trade-union movement) was of a very different character from the objection raised by contemporary workers.

At that time, the working hours were so long that any attempt to increase the intensity of labour could not but be regarded by the more intelligent among the workers

as a robbery of their capitalised energies. Generally speaking, however, productive technique was at so low a level that (working hours having reached the utmost bearable limit) an increased yield could be secured only by speeding-up the workers. Their poverty exposed them to the temptation of trying to earn even a slight increase in wages in return for a very considerable increase of effort; thereby they hindered their moral redemption which could be achieved by the growth of the idea of solidarity. Owing to the weakness of the extant trade-union organisations, the lack of labour-protection laws, and (last but not least) the extreme lowness of the standard of life, every departure from the principle of payment by time became an opportunity for forcing down wages, and for lowering the standard yet further. On the other hand, qualitative division of labour within the enterprises had not yet proceeded far enough to make plain to all that there are distinctions between the values of the contributions various kinds of workers make towards the total results. The brainwork of a productive enterprise was still performed for the most part by a single person who was simultaneously the capitalists, the entrepreneur, and the works' manager. There had not as yet developed that stratum of working intellectuals who today have so obviously a claim to higher remuneration than the ordinary workers because they are so obviously indispensable, because their work has the quality of creating more value, because their training is more expensive, and because their mental culture produces and needs a higher standard of life.

The reports on which this study is based show that the attitude of industrial workers towards the method of paying wages has become a very different one today. A rejection of the principle of "payment by results" is by

no means as general as of yore; and where we encounter objections to the method in actual practice, they are usually voiced on the ground that in the particular instances under consideration the aim of payment by results is not effectively achieved.

Underlying such criticisms there are, doubtless, in many cases, unconscious or unexpressed motives which remain to be elucidated. The expressed or implied motives for objection to piecework rates of wages may be classified under six heads: *a.* Piecework rates tend to speed up the worker unduly; *b.* They promise more advantage to the employer than to the worker; *c.* They imperil working-class solidarity; *d.* They impair the quality of production; *e.* They increase the workers' insecurity of livelihood; *f.* The workers cannot keep track of output and wage calculations.

a. Speeding-up.—Owing to the social conditions under which wage labour is performed, the worker feels that he is exposed to a twofold pressure. He feels that he is unjustly disadvantaged economically speaking, in a word that he is exploited, for he compares his small earnings and his general state of deprivation with the riches and wellbeing of members of the capitalist class; and he comes to the conclusion that the privileges enjoyed by the capitalists are achieved by taking advantage of his own poverty and social dependence. He also feels that he is a victim of oppression because the labour process subjects him to the will of those who own enterprises, organise and manage production, and possess its fruits.

Normally, therefore, the worker is dominated by the feeling that he is subjected to the coercion of a superior and hostile power. He does not need to study the theories of values and surplus values to convince him that the employer's aim is to compel him to furnish the greatest

possible output in return for the smallest possible wages—or at any rate for wages which are very small when compared with the output. By a natural psychological reaction, therefore, he is animated with a tendency to do as little work as possible in return for his wages. This inclination, of course, is partly counteracted by others. He knows that the least productive workers will be the first to lose their jobs, and he would fain improve his lot if he could; to some extent, therefore, his interests coincide with those of his employer, and to this extent he is prepared to put his back into the work. Contributory to the same desire are the various spiritual impulses embodied in the ethical trend of the working group (the nation, the craft, those employed in one enterprise or working at the same bench, etc.). The instinct of self-assertion, the sense of social obligation, and the various other instinctive and customary trends discussed in the earlier part of this book, all operate in the same direction.

As every one knows, the level at which a balance between these conflicting tendencies is established, the level of "normal" output, varies greatly from individual to individual and from working group to working group. Precision of statement in this matter is scarcely possible, were it only for the reason that a subjective element (the will to work) and a qualitative element (the goodness of the product) enter into the question, and defy numerical calculation. The normal level of customary exertion is lower in the Russian than in the German, in the oriental coolie than in the western artisan; and, other things being equal, it is lower in the case of a worker who is badly paid, works long hours, is ill nourished, and comparatively unskilled, than in the case of one who is better off in these respects. It differs from occupation to occupation, from enterprise to enterprise; and for socio-psychological

reasons, it even differs in the same working group at different times. We see the curve of production fall during the preliminary stages of a fight for higher wages, after the defeat of a strike, and during times of unusually intense social conflict; we find that in the springtime, when the sun is exercising its lure, miners begin to talk of organising strikes and are inclined to hew less coal; and we see men work with greater zest after an improvement in working conditions. Always, however, the customary subjective notion of "normal exertion" results from a balance of conflicting tendencies, some of which embody a determination "to give no more than his due" to the boss. On the ground of the conflict of interests between himself as seller of labour power and the employer as buyer of labour power, and because of his sense of working-class solidarity, the worker feels convinced of his right to determine how much work he shall do in the stipulated working hours; and he tries to do no more than seems to him "right and proper".

The conflicting moral precepts which form the two poles of this tension of motives are incorporated in the familiar Anglo-American expressions "a fair day's work for a fair day's wage", and "don't make dividends; soldier on the job". The use of the word "soldier" in this connexion is characteristic of the motive underlying the disinclination to work unduly hard. Like the soldier who is subjected to the coercion of an alien will, the worker is to get even with the man who orders him about by doing no more than he is absolutely compelled. The stronger the sense of coercion, the more vigorous will be this kind of reaction against it. Even in the United States, where not all is efficiency that glitters, I have known enterprises in which "soldiering" was practised in accordance with all the rules of art. These were without

exception enterprises or sections of enterprises in which the work was done by unskilled workers using manual appliances, and in which the workers were subjected to a very strong discipline by masters who were "nigger-drivers", so that the impulse to hit back by lowering output and thus reducing profits was naturally a vigorous one.

Speaking generally, however, a class-conscious determination to do as little work as possible is an exceptional and transient phenomenon. Were it otherwise, the workers would not be able to resist the demoralising effects of the practice, for the method unless used openly and self-assertively as a temporary means of struggle (ca' canny, sabotage, passive resistance) is felt to be crafty, deceptive, and consequently degrading. As a rule, output is stabilised somewhere near a level which the workers themselves feel to be fair, as determined by local and trade customs.

A worker who is distinguished for his skill in shirking on the job will enjoy among his mates no more than the fleeting and uncertain popularity of the insubordinate classroom wit at school. What is at first an approving smile, grows more and more contemptuous; and in the end nearly all draw away from the black sheep, his only remaining admirers being a small number of less courageous ne'er do weels or semi-imbeciles, incapable of admiring a loftier form of heroism. On the other hand, in every enterprise (unless it has been completely demoralised by bad management), the steady, efficient, and conscientious worker is sure to earn the lasting respect of the great majority of his workmates—provided that there is no reason to regard his diligence as in indication of self-seeking, or to suppose that it will react unfavourably on the economic position of his fellows.

The replacement of time rates of wages by piecework

rates is primarily regarded by the workers as an attempt on the employer's part to secure an output greater than that regarded by the workers as "fair" under the hitherto prevailing system of payment by time. Obviously, this is the main purpose; for although the employer frequently declares that his object is merely to put inefficient workers at a disadvantage, this end could be far more easily secured by dismissing those who do not give satisfaction. However much the chance of higher earnings under piecework rates may appeal to the acquisitive instinct, we usually find that the sense of social power and the instinct of self-assertion (moralised by the idea of solidarity) prove more powerful. Resistance to payment by piecework rates then seems to the worker to be a fight on behalf of his right to decide for himself what is "a fair day's work". He may adduce excellent reasons for his resistance, such as his desire to avoid the evils of overproduction, and the need to protect himself against excessive fatigue; but these are as a rule no more than "rationalisations" of the "democratic" impulse towards self-determination that is deeply rooted in the individual sense of justice and the individual instinct of self-assertion. This feeling is clearly expressed in the utterance of a miner (case 38), who says: "I only object to the piecework rates in so far as they are used for the sake of speeding-up."

b. Handicap in favour of the employer.—The foregoing objection to piecework rates (in which term I here include all wage systems in which rates are dependent upon quantity of output) is reinforced by the consideration that from the employer's point of view speeding-up is a means for increasing profits. A worker does not need to be a skilled economist in order to see that the introduction of a piecework system (and especially of the

modern premium-bonus system), involving as it does a far more complicated organisation for the payment of wages than does a simple time rate, can only "pay" if it leads to a disproportionate increase in production.

Thus the worker's objection to these systems is the outcome of an unusually powerful and "explosive" mixture of motives: those derived from the instinct of self-assertion, and those derived from a sense of justice. The worker does not merely feel that he is being coerced, he also suspects that he is being cheated. His experience of what the Americans call "rate cutting" has put him wise on this point. If, thanks to the new method of payment, the workers were enabled to earn considerably more, the employer would almost always proceed to lower the piecework rate, on the ground that it was producing a weekly wage higher than the customary. Whenever this happened, the workers would react, with spontaneous solidarity, by reducing output.

In his endeavour to introduce a system which will increase output more than it increases wages, the employer appeals to the principle of "payment by results". There is, however, obvious insincerity here. In accordance with the principle of payment by results, the entrepreneur's profits (justified as interest, contribution to sinking fund, payment for the risks of enterprise, managerial charges, etc.), should, when output is increased by the new system, themselves increase only in proportion to the increase in the workers' wages. But the increase in earnings is as a rule smaller than the increase in output and profits, and for that reason the workers feel that they are being exploited, that an unjust advantage is being taken of their comparative economic weakness. The worker's instinct of self-assertion makes him feel all the more wounded because he thinks that the employer

is deliberately speculating in his poverty. In the worker's view, the employer knows how urgently he needs an increase of earnings, and tempts him to sacrifice to this need his traditional right to decide what is "a fair day's work".

The worker's pride, too, is involved in the matter, for he feels that an attempt is being made "to lead him by the nose". He feels that acceptance of the proposal to introduce piecework rates would imply that he was not shrewd enough to see through the employer's real intention. That is why so much heat is apt to be shown by the worker when the attempt is made to introduce piecework, even when resistance to the proposal is obviously hopeless, or when calm calculation would show that the employer is not likely to get any more out of it than the worker. Economic considerations apart, the worker's feeling is that he objects to being gulled.

From the nature of the two before-mentioned objections to the piecework system of wages, we can infer the conditions which must be fulfilled in order to render these objections invalid. The worker's resistance has never been directed against the principle of payment by results; on the contrary, in most cases (though seldom expressly), he accepts this principle and is guided by it. The two main objections to piecework rates (that they deprive the worker of his traditional right to decide how much work he shall do in a day, and that they increase the employer's profits disproportionately) would have the ground cut from under them as soon as the adoption of this method of paying wages ceased to be an arbitrary act of the employer, and became the outcome of an agreement between two equal contracting parties for the purpose of regulating both wages and profits by the standard of output. We are still a long way from any

such goal, but experience shows that the worker's resistance to the introduction of piecework rates declines in proportion as an increase in the power of organised labour gives the workers more voice in working conditions. The trade-union movement, whose old catchword "piecework is murder work", seemed to imply a rejection on principle of the idea of payment by results, is seen more and more plainly, as time passes, to be the main instrument for the realisation of that principle.

c. Imperilling of solidarity.—A third traditional objection to piecework rates is that they induce the workers to vie one with another, leading to the spread of envious feelings among them, undermining their solidarity, and therefore reducing their organised strength. In this matter, likewise, we shall find it fruitful to make a profounder study of the question of motives.

Persons engaged on the same task in close proximity and under identical conditions are peculiarly accessible to a feeling of envy. Such a feeling is not necessarily the outcome of any conviction that the person who is envied enjoys economic advantages at the expense of the one who is envious. A professor of ethics or a parson is quite as likely as a man of business, an artist, or a man of letters, to envy more fortunate, more talented, wealthier, or more famous colleagues; even though the advantages enjoyed by the more successful person do no economic hurt to the less successful. The feeling of envy is the direct outcome of the need for compensating an inferiority complex—a complex which may or may not have economic grounds. We may, indeed, find on occasion that the envy fortifies itself, nourishes itself, and endeavours to justify itself, by setting the imagination at work to construct a non-existent economic hurt inflicted by the person who is envied. Much more effective, however, as

compensation for a mortified sense of self-esteem, is the justification of envy by the idea that the superior advantages enjoyed by the person who is envied are unfair. Should there be any real, objective ground for such a conviction, envy may be intensified to become one of the most powerful passions of which the human spirit is capable, for the higher impulses of the protective (or parental) instinct and of community feeling then join forces with the lower motives of the instinct of self-assertion.

Among the workers, industrial enterprises, being places where associated labour is carried on under hierarchical conditions, are a favourable soil for the growth of such resentments. Only one who has the psychological naivety to swallow the Marxian mechanistic dialectic at one gulp, will be ready to believe without qualification that the cooperative character of factory work is the cause of the cooperative sentiment (the solidarity) of the workers. The association of labour, while bringing the workers into contact one with another, gives thereby at least as many opportunities for friction, as factors for the promotion of brotherly love.

No doubt the specifically proletarian phenomenon of a feeling of working-class solidarity is based upon a community or a similarity of working experience—but not in the sense that a technical, working "cooperation" undergoes a spontaneous transformation into a social and political community of will. The main causes of working-class solidarity are to be sought elsewhere. This becomes obvious when we study the historical origin of the idea of proletarian solidarity. There have been two main primal sources of this idea, severed as widely one from the other as the poles: an empirical source, the outcome of direct experience that the workers have common

interests in the wage struggle; and a theoretical one, anticipatory, teleological, springing from a sense of participation in the ideal community conceived by socialist thinkers. The two elements came into touch by a respective widening and narrowing. The sense of proletarian group-interest became gradually enlarged from the enterprise or the craft to the working class as a whole; and the humanitarian ideal of the utopist was curtailed so as to apply no longer to mankind but to the class.

As far as the workers were concerned, matters went much as described in the *Communist Manifesto*: "To begin with, the workers fight individually; then the workers in a single factory make common cause; then the workers at one trade combine throughout a whole locality", and so on. We may doubt, however, whether, even in the earliest phases of the trade-union movement, there was ever a wage struggle to which motives that were offshoots from the great catchword of the "socialism of intellectuals" failed to contribute its quota. Among those trade unions which (like most of those enrolled in the American Federation of Labour) have been little if at all affected by the ideological movement of intellectualist socialism, there has been little trace of a working-class solidarity embracing all crafts and all races such as is characteristic of class consciousness among European socialists. In the United States the labour movement was narrowed by craft selfishness and national sentiment. As a matter of historical fact, it is more accurate to say that the socialist labour movement is a product of socialist ideology, than that socialist ideology is a reflexion of the class interests of the workers.

The ideological movement, on the other hand, starting from the opposite pole, narrowed to meet the widening movement on behalf of class interests. It set out from the

widest conception of solidarity, from the cosmopolitan humanist ideal of the communal welfare, regardless of whether this notion of solidarity was based on Christian ethics, lay humanitarianism, or the teaching of the liberal economists. What happened here was, not that "the workers in a single factory made common cause", but that, a century or so back, in one or another metropolis, refugees and exiles from all sorts of countries and all possible social strata took counsel together. There were university professors and working tailors, miners and apothecaries, sometime court pages and watchmakers, cashiered army officers and stranded hoboes, philanthropic factory owners and bohemian litterateurs, with the most diversified destinies and economic interests, but united by their common enthusiasm for a worldwide Utopia.

Of course the two elements of this great movement were never wholly separated. From the outset they interacted each upon the other. Historically speaking, the intellectualist and idealist factor can claim the right of primogeniture over the proletarian and empirical factors; and the former played the more actively fertilising role. No local trade-union branch in Germany would be what, thanks to the spirit of its members, it is today, were it not that for decades their activities have been animated and their thoughts have been fired by the spiritual legacy of Lassalle and Bebel, of Marx and Engels—and, through these, by that of Owen, Saint-Simon, Fourier, and Proudhon.

As to those factors of the sense of proletarian solidarity directly derivable from the experiences of everyday working life, it is erroneous to refer the origin of these to the cooperative character of industrial labour. They are not the outcome of an adaptation of human beings to the

peculiarities of the technical material environment; but of the revolt of human beings against the human social environment, and especially against the autocratic management of enterprise. The reports show this plainly enough.

We should almost be justified in formulating a general law to the effect that a sense of working-class solidarity is, other things being equal, less active in proportion as the tasks on which the workers are engaged assume a more cooperative character. This applies equally to cases in which cooperation necessitates subordination, and to those in which it simply involves a working juxtaposition. When a skilled worker cooperates with an unskilled assistant or an apprentice, or when the skilled minder of a machine cooperates with a labourer as assistant, there ensues (even where there is no conflict of interest between the two arising out of the division of piecework earnings) a tension which springs from rival instincts of self-assertion, rival wills to power, struggles for prestige, differences in skill and in the enjoyment of work. We see this, for instance, in the reports of some of the builders and carpenters, in whose trades the skilled workers depend greatly upon the help of unskilled assistants, for which reason the skilled men pride themselves on their superior status, and insist upon the need for subordination. The machinist in the cigarette factory (case 50) complains that there is friction between the machine minders and the girls who pack the cigarettes, the piecework rates of the latter being affected by the quality of the former's work.

Even among workers who are paid exclusively by time and who are not subordinated in any way one to another, an enforced promiscuity of associated labour is apt to arouse a trend towards spiritual isolation. Very instructive, in this respect, are the reports of linesmen on the railway,

who work in gangs, and often accompany their joint activities with song. We are told, however, by the three representatives of this occupation, that their comradeship is restricted to persons who are of the same way of thinking in political and trade-union matters; and that the cooperative labour in and by itself tends rather to produce envy and strife. The head machinist of a theatre (case 74) writes with reference to the markedly cooperative work of the staff of the theatre: "The sense of comradeship among us leaves a good deal to be desired; this is because of the cooperative nature of the work." A musician in an orchestra is unquestionably a worker whose occupation demands cooperation of the very highest kind, but such a man (case 75) tells us: "Comradeship among us is at a low level on the whole; . . . most of my colleagues are selfishly inclined; they are unduly conceited about their artistic abilities, and they envy one another."

The sense of solidarity which underlies the idea of labour organisation and the idea of the class struggle, and which in turn is intensified by actual experience of the class struggle, is not a product of the technical conditions under which proletarian work is performed. It comes into the workshop from without. Usually, it is more obvious and more lively at meetings after working hours than at the bench in the daytime. In so far as it is the expression of the direct experiences of proletarian life, it is animated by two essentially distinct motives: the consciousness of economic interests common to all members of the class; and a joint resistance to the authority of the manager of the enterprise. In the ensuing section, that which discusses the disciplinary subordination of the workers, it will become plain why (differing from the usual view) I am inclined to regard the latter motive as

the more powerfully effective of the two. I believe, indeed, that the very idea of class interest is itself primarily derived from the worker's intra-occupational and extra-occupational social inferiority complex, and from the resulting will to power. However this may be, the sense of class solidarity, the conviction that the workers as a class have common interests, arises, not in the workshop, but in the meeting; it is to be accounted for, not by mechanical causation, but above all by psychological teleology, for it is inseparable from the consciousness that workers have common aims.

No doubt the sense of a community of lot in working life, and the human need for gregariousness, play a part in originating the sense of solidarity, but only in the form of a raw material which can be elaborated in this way or that in accordance with varying dominant aims. A coal hewer (case 38) speaks of the "strong sense of comradeship among miners", and ascribes it to the way in which they are secluded from the world by their occupation (doubtless it is in part also due to the sense of a common peril); but surely under other generalised social conditions, this strong sense of comradeship might just as well unite the miner with the managing engineer or the business manager of the mine, and cut him off from his classmates, as it now fosters a proletarian class consciousness? Be that as it may, solidarity does not signify community of lot but community of thought. Solidarity is not a stabilised condition, is not a quality inherent (so to say) in the substance "proletarian", but is an unstable equilibrium between psychological forces of attraction and repulsion which are continually at war one with another. The social and altruistic instincts crystallise in the form of a collective will-to-power and a collective instinct of self-assertion, morally confirmed by the protective instinct

and by a feeling of equalitarian rights, and aiming at an ideal of perfect cohesion; but the conflicting tendencies of the individual instinct of self-assertion and the individual acquisitive instinct are perpetually creating a tension which (in abstract terminology) finds expression in the conflict between the two main principles of proletarian socialist ethics, "all have equal rights to the satisfaction of their needs" (or "to every one according to his needs"), on the one hand, and "to each according to his performance", on the other.

The former principle justifies a demand for equal wages, paid by time; the latter leads to a gradation of earnings by the quantity of individual output or payment by results.

Throughout the history of the labour movement, the two conflicting motives which are the expression of the two conflicting principles are perpetually at work, under manifold variations, and in the most diversified mutual relations. Their conflicting character is betrayed in the confused nature of the workers' ideas as to their rights, and the confusion works itself out as a lack of unanimity and consistency in their attitude towards the different wage systems.

A hint as to a possible solution of the conflict may be given. It is important to note that the two formulas have the same ethical foundation, and that the difference between them is only the outcome, in the respective cases, of a historically determined over-accentuation of a partial inference from that common ethical basis. Their common root, their moral fundamental tone, is the feeling, the conviction, that all those who work or are willing to work have an equal right to happiness. Another important point is that the history of the labour movement shows a gradual transference of emphasis from the

former demand to the latter, a gradual replacement of the ideal of equal time rates of wages by the ideal of payment by results.

Without carrying our investigation too far back into the mists of the past, and without inquiring (however natural and however important the question may be) how far Christian tradition and how far inherited predisposition are here at work, we may say that both the principles and both the motives are part of the workers' general moral legacy from the time of the medieval handicraftsmen and peasants. They underlay the working system of the feudal age. The aim of that system was to ensure a Christian wage of "daily bread" for all who fulfilled the Christian obligation to labour. This "daily bread" was essentially identical with what in communistic formulation is known as the satisfaction of elementary needs. As recently as the opening days of the capitalist era, Luther still defined it as the provision of "all that belonged to the nourishing of the body and the satisfaction of need, such as eating, drinking, clothing, shoes, house, farm, land, cattle, money, goods, pious wife, pious children, pious servants, pious and faithful overlords, good governance, good weather, peace, health, discipline, honour, good friends, kindly neighbours, and the like".

This "daily bread" represented a minimum standard of life, generally accepted as customary, which was to be secured for every one who did "daily work". But, over and above this, every one who did more than the minimum of work (above all, everyone whose work was qualitatively excellent, seeing that the quantitative output was strictly limited by custom, law, and the Church) was entitled to earn more than the minimum, proportionally to the measure of the values he created. Owing to the direct ties

which then obtained between producers and consumers, the measurement of the reward was comparatively easy, being expressed in the price which the producer was able to secure for his product.

We all know that capitalism has brought about extensive changes, by unleashing the profit-seeking motive, by establishing the division of labour in large-scale enterprise, by intercalating commercial and financial functions between producer and consumer, and by degrading labour-for-a-price to wage labour. Nevertheless, there has been no essential change in the fundamental ethic that underlies the workers' outlook on their work. The old views persist, partly because they are rooted in a general body of social morality which is also sanctioned by religion; but, in addition, because they have helped to give an ideological buttress and an ethical justification to the workers' struggle against the attempts of industrial capitalism to force down the standard of life—especially in the matter of the length of the working day, and the movement tending to deprive the workers of independence, security, social standing, and joy in work.

In the light of this development it becomes plain how the two formulas, which to begin with were complementary, have been able to acquire conflicting significance, thanks to the stressing of different practical inferences in the respective cases. They are substantially identical only under certain conditions, which were peculiar to the feudal system, and to the precapitalist system in general. The first of these conditions was a restriction of the standard of life—a restriction warranted by religious, legal, and socio-ethical considerations, and founded on restricted productivity. As long as money had not yet become capital, as long as money could not make profits, acquisition beyond the limits of the owner's

capacity for consumption had no meaning. Even landed property, which was in those days the only important form of monopoly in the means of production, was not used to serve unlimited acquisitive aims. The second basic principle of the feudalist ethic of labour was the restriction of needs (subjectively no less than objectively) to a level appropriate to the estate in which one was born; each estate had to see to it that its members observed due proportion in these matters. The third basic principle was that in industrial production the hierarchy of masters, journeymen, and apprentices, was not to be made the foundation of any class distinctions. Every journeyman who showed sufficient ability was able to look forward to becoming a master some day; the higher earnings of the master craftsman were proportional to the higher skill and social value of the work he did; and often enough the wages of the journeymen, taking the form of shares in the price, were directly proportional to the yield of their labour. Even though the reality may not always have corresponded to this ideal, popular faith in these ethical principles remained vigorous enough for centuries to struggle victoriously against opposing tendencies.

Under the new conditions introduced by capitalism, these presuppositions were all suspended. In the first phase of industrial capitalism, the scale of life of the industrial workers was, when we take into account the new possibilities of enjoyment that were provided, and the new desires that were unleashed, permanently depressed below the level of their needs. The productivity of labour and the wealth of the proprietary class grew far more rapidly than the share of the workers in the new prosperity. The empirical foundation of the demand "wages in accordance with need" thus ceased to be

conservative; it became the watchword of a situation in which the inadequate satisfaction of the most elementary material needs was the characteristic lot of all the workers. What sounded as if it were the claim for a maximum, was in reality meant only to be the claim for a minimum.

One who suffers the pangs of hunger, craves to eat more than his stomach can hold; only while eating, does he grow more moderate in his demands. If a world in which the air we breathe was restricted in quantity, was monopolised by privileged persons, and was sold by them at so much a bottle, the poor would write upon their banners, "air for everyone in accordance with his needs", and would insist upon the "right to breathe". In such a situation, no one thinks of being moderate in his demands; for why should he talk of a possible maximum for these when in reality his only concern is to conquer a minimum? But as soon as the minimum has been achieved, matters assume a different visage. In such a society as ours, where every one has a right to breathe (though not every one has an equal chance of breathing good air), a quantitatively equalitarian formula "let all have the same amount of air", would have no meaning. Our formula must be a qualitatively differential one, "better air for the poorer inhabitants of our towns", "mountain air for consumptives", "more oxygen for children"—in a word, let every one get the kind of air he needs.

With the progress of the labour movement, there occurs a like transference of emphasis from the tendency to level wages to the tendency to differentiate wages. The absolute demand "to each according to his needs", which was given its meaning by a faith in the inborn equality both of rights and of needs, was only the wild outcry of the utterly disinherited, was nothing more than the idea

of an extreme compensation for the extremity of poverty. As soon as the organised labour movement had forced up the workers' standard of life until that life ceased to be one of intolerable and desperate deprivation, a more moderate and practical demand for a minimum wage replaced the theoretical formula of the extremists. As time passed, this demand for a minimum wage became the moral and legal foundation of collective bargaining. In the case of the best organised strata of the working class today, collective agreements normally prescribe a minimum wage, and here and there in special cases such a minimum wage is even specified by law. This means that what is regarded as a normal standard must be maintained for all, that the supply of at least the minimum felt to be requisite for the maintenance of a decent life must be ensured. We see this very plainly in the fact that the discussions whereby such a contractual or legal minimum is established set out, as a rule, from the actual customary expenditure of the workers and their families; as to the principle there is no dispute, the only differences are as to actual rates. The family allowances which, in continental Europe at least, have been such characteristic phenomena of the post-war period of crisis, make it still plainer that a minimum standard of life has been generally recognised on principle. But the usual collective wage-agreement allows for a supplement to the minimum, this supplement being always graded in accordance with skill (shown by the nature of the occupation and by the length of the period of training); but also graded, in particular occupations, in accordance with output, thus recognising the principle of piecework rates.

In this way, actual practice has created a foundation on which the two ostensibly opposing demands, no longer put forward in their extreme forms, can fuse into

a new unity. The demand for equality (based on the idea of needs) is realised in the shape of a minimum; whilst the demand for differentiation (based on the idea of performance) is realised in what is paid over and above the minimum. The latter only becomes acceptable to the workers, when the primary demand for a minimum has been fulfilled.

Nevertheless, in existing circumstances, the conflict between the rival demands in the workers' mentality is not yet solved. The wage-agreement is never exactly what the workers want; like any other agreement between persons with conflicting interests, it is a compromise. Even the combination of the two methods of paying wages has also this character of compromise. As far as logic and actual practice are concerned, the methods can be harmonised well enough; but psychologically they represent conflicting motives, which continue to run counter each to the other. What the workers have most at heart is that the equalitarian minimum shall be recognised, and that the level of the minimum shall be gradually raised. The employers, on the other hand, whose main interest is in an increase of productivity which will swell their profits, think mainly of grading wages in accordance with output. Only in proportion as the workers gain a right to joint control in management, only in proportion as a shifting of the relationships of social powers gives the workers a living interest in as well as a direct responsibility for production, will there be created a platform on which the conflicting motives of the two parties can come a considerable way to meet each other. Meanwhile, the sphere of conflict remains considerably larger than the sphere of community of interest. Till better days come, the crumbling away of proletarian resistance to piecework rates will be accom-

panied by the discontent and the suspicion which always characterise the mood of one who adapts himself to a new situation merely because he has no option. Only by slow degrees, in such cases, do mentalities adapt themselves to the development of institutions.

In so far as the fixing of piecework rates, or at any rate the machinery for setting them up and for settling disputes arising out of their application, is brought within the scope of the organised workers' right to joint control, do we remove the main objection to this system of payment—which is that it tends to undermine working-class solidarity. If, as I think I have been able to prove, the solidarity of the workers in any particular enterprise is not the outcome of their equality of lot, but of their community of lot, resulting in a common mental attitude towards the capitalists and the managing hierarchy of the enterprise, it can only favour the ethical content and the community-building force of solidarity if the solidarity which is no more than the mechanically enforced reflexion of an envy neutralised by equal mediocrity, be replaced by an organic solidarity which recognises individual distinctions in order to subordinate them to freely willed communal aims. Nowhere in the United States is there less proletarian solidarity than in the conveyor sections of Ford's enterprises, although there, since time wages are paid (the speed of labour being dictated by the machinery, and the menace of discharge always hanging over the heads of the inefficient), there is perfect equality of earnings. On the other hand, the skilled workers of Ford's toolmaking department, who are all paid on piecework rates, are the only ones who are to some extent organised in a union, and among whom there prevails a considerable measure of solidarity. It must not be inferred from this that piecework rates and

solidarity condition one another mutually. My point is that the social circumstances of the workers are the vital question, and that piecework rates and solidarity are by no means mutually exclusive.

These considerations explain why it is that, as the reports show, those categories of workers who have at any rate come to terms with the introduction of piecework rates, are as a rule the ones who have secured, by trade-union action, the maximum amount of joint control of enterprise, and those who manifest the most highly developed occupational solidarity.

d. Impairment of quality.—One objection to piecework rates, which does not often find expression, but seems to gain significance concomitantly with social advance, is that this system tends to impair the worker's joy in his work by insistence on the quantity of output at the expense of quality. No doubt this tendency is inherent in all mechanised detail work and repetitive work, under every kind of wage system, and not least under a time-wage system inaugurated in accordance with Ford's principles; but, as a general rule, the payment of piecework rates reinforces that tendency. The latter remark applies especially to labour processes which are little if at all mechanised, for in these branches of production piecework must play the part of the machine or the conveyor in adapting the tempo of labour to the wishes of the employer. Now, when repetitive work is manual, the worker may still take a certain amount of pleasure in the quality of his output, and an unfortunate result of speeding-up by the payment of piecework rates is that the method has a tendency to impair the quality of the product and to deprive the worker of the experience of creative pleasure in his work. Even in the case of production effected by machinery, or in part by machinery,

the replacement of time wages by piecework rates has similar results, though they are usually less marked. Here the workers' attitude is, in general, predominantly determined by hostility towards repetitive work as such; or in certain industries (especially in the metal industries) with a variable wage system, piecework rates are usually connected with repetitive mass production.

From the outlook of joy in work, the opposition of the workers must be regarded as well grounded in these cases. Nevertheless, even here, instead of rejecting the principle of payment by results, a remedy can be found by carrying out the method more satisfactorily under better social conditions.

The method of payment by the piece need only endanger the quality of the product when piecework rates and minimum wages are so low that the worker has to speed-up immoderately in order to earn a subsistence. Many of the objections to piecework cease to be valid from the moment when the entrepreneur gives up using the method as a means of diminishing the amount of wage expenditure per unit of production, and contents himself with securing the general advantages of an increase in productivity (a more intensive utilisation of the machinery and the fixed capital generally, a reduction of the overhead expenses per unit of production, the social advantages of increased production, etc.). The question whether this aim can only be achieved by extensive changes in the property system, so as to guarantee the building of the motive of gain as a stimulus to enterprise, or whether it could be achieved by a simple extension of the workers' right to a joint control of the workshop and the enterprise, is one lying outside the range of the present inquiry. In any case, the overcoming of this particular objection to payment by the piece is an extremely complicated social problem,

inasmuch as it involves the interests of the consumer as well as those of the producer. Yet there is no reason to despair of its solution, since that solution lies along the line both of social and of technical evolution. Social advance tends to give both workers and consumers more say in the management of production; advances in technique facilitate also a qualitative standardisation of the product independently of the will to work of the individual producer.

e. Insecurity of livelihood.—A fifth reason why manual workers are inclined to resist the introduction of payment by piecework rates is their feeling that this threatens the security of their livelihood, either by tending to bring about over-production and consequent crises of unemployment, or else by making their earnings irregular.

However much the wage policy and the internal educational work of the trade unions may aim at increasing *productivity*, an actual increase in quantitative *production* under the stimulus of piecework rates or premium bonuses, within the extant system of wage labour, involves for the worker immediate dangers which he cannot be led to ignore by any considerations as to ultimate social advantages. If, without any extension of markets, more products are made, some of the workers become superfluous, and are liable to be dismissed. In the early days of the trade-union movement, a great deal was heard of this objection, especially in view of the fact that the introduction of piecework rates was often coincident with the first decisive steps towards the mechanisation of production, which likewise primarily tended to cause unemployment. In many skilled crafts, the American and some of the British unions are still on principle opposed to the payment of piecework rates, and they resist the introduction of these in ways which have

exposed them to the reproach that they are animated by a selfish determination to "restrict productivity". In most instances, the accusation is unjust, seeing that a restriction of output or a reduction of the intensity of labour for social reasons is a very different thing from a restriction of productivity; it may even, in the long run, lead to an increase in the productivity of labour (meaning the ratio between the product and the expenditure of labour power) by stimulating the introduction of labour-saving machinery. Furthermore, from the outlook of social economics, an increase in the quantity of product per worker in the absence of a proportional increase of earnings, involves a disastrous increase in the difference between the total mass of commodities available for consumption and the aggregate purchasing power (which is mainly dependent on the wages paid to the workers).

Still, even this objection to piecework rates is not directed against the principle of "payment by results", but only against the attempt to depress wages in proportion of the expenditure of labour power and to deprive the worker of the right to decide for himself what is a fair and reasonable expenditure of his energies. In proportion as the trade unions are able to secure for the workers higher wages and a larger right of self-determination, this argument therefore loses its force.

A feeling that the security of livelihood is menaced by the payment of piecework rates may also depend on purely individual experiences within the enterprise. The worker on time wages knows exactly what he is going to receive at the end of the week. One who is paid by the piece is always liable to be surprised in this matter—pleasantly or unpleasantly as the case may be. The resulting uncertainty is stimulating to some and a torment to others. Whether it will act in one way or the other

depends upon three circumstances, which vary from person to person: the actual prospect of improved earnings; the temperament of the particular worker; and the special circumstances in which the worker happens to be placed.

In the long run, and for the normal human individual, the adventure of uncertainty only possesses charms when he has good reason to hope that the ultimate advantage will be on his side. The worker in Levenstein's *Arbeiterfrage* (page 38), who says, "Piecework rates are more interesting than when one already knows on Monday that one will only get twenty-four shillings at the end of the week", would no doubt feel differently about the matter if at the end of the week he were to get less than twenty-four shillings as a result of being speeded-up by piece rates. Besides, a good many persons are so constituted as to prefer the certainty of a modest weekly wage to the uncertain prospect of being able to earn a little more, especially when they have to sacrifice their peace of mind, and perhaps even their health, for the prospect of these larger earnings. A man's attitude towards such matters alters as he grows older. A sporting chance is more likely to be attractive to young people; who, besides, will often think nothing of working like galley slaves half the week, to earn extra money that they can squander on a "day out". Important, in this connexion, are the varying needs of a worker of riper years, according to the size of his family and other conditions of family life. One man will prefer piecework rates because then he can more easily keep from his wife a knowledge of exactly how much he earns; another will prefer to know the precise amount he will be able to bring home on Saturday; another will hate the system because it makes him work under a sense of "drive". A good many workers

who are bored by the monotonous character of their occupation, find a pitiful and yet welcome compensation for their lack of interest in their actual work, in speculations as to how much they can get through and how much they can earn thereby. But however much the psychological effects of uncertainty of earnings in workers on piecework rates may vary, these effects are less disadvantageous, the higher the average wage and the juster the system.

f. Dread of being cheated.—Independently of all the foregoing considerations, the worker's attitude towards payment by output (especially in the case of the many complicated systems of premium bonuses) is often affected by a chronic and instinctive dread of being overreached—no matter whether there is or is not any real risk of the kind. When he is paid by time, the worker knows exactly what he is going to receive, and how much work he will have to do to earn his wages; when he is on piecework, not only are both these points outside the range of his foreknowledge, but they are also to a certain extent outside the control of his conscious will. Of course when he is on a time wage he is liable to be "driven" by the foreman, but he knows that he is not likely to be troubled by this if he works with average industry and conscientiousness. Furthermore, this manifest coercion, objective in character, to ensure that he shall do at least a minimum of work, is often far less depressing than the subjective coercion, the inner drive, which the desire to earn more produces under the stimulus of piecework rates. This, no doubt, explains why so few workers are convinced by the popular argument that payment by the piece "frees" the worker from the tyranny of the foreman to which he is subject when paid by time. Even when he is frankly at war with his superiors as to the amount of work he is

to do for a time wage, the worker always feels that the decision upon this matter is within the range of his own will and his own knowledge. When he is paid by the piece, it is often otherwise in these respects. What, under time rates, was openly achieved by the coercion of workshop discipline, is now to be achieved in an underhand way by a subjective temptation. An appeal to the baser instincts of acquisition and egotistical self-assertion, the lure of gain, is to stimulate the worker to increased exertions. An uncomradely outviewing of his workmates, an imperilling of his health, and a loss of joy in work in consequence of over-exertion, seem to be the outcome of a free voluntary act on the part of the worker, though in truth he has merely succumbed to a temptation to which he has been exposed by an irresponsible person, stronger than himself. He thus falls a prey to a more or less conscious internal conflict between the moral demands that he shall be solidarised with his fellows and that he shall not succumb to the lure of gain, on the one hand, and his self-seeking instincts on the other. Since the self-seeking of the employer, greedy for profit, has forced this conflict upon him, it is natural that the worker should therefore regard the employer with enmity and suspicion.

The suspicion is intensified when the operations by which piecework rates are being fixed and actual earnings calculated lie outside the knowledge and control of the worker. The history of the early days of capitalism is not calculated to allay this suspicion. Especially in the continental textile industry, even well on into the middle of the nineteenth century, the ignorance of the workers, the inadequacy of labour organisation, and the lack or the inefficiency of labour-protection laws, offered such abundant opportunities to unscrupulous employers, that the keeping down of earnings by falsified calculations, and

by arbitrary reduction under the head of fines, etc., were almost normal phenomena.

Even though such practices be things of the past, it is often difficult for the workers to keep track of the calculations in accordance with which the amounts paid to them as piecework wages are determined, and this is a ground for instinctive suspicion. There are three causes of resentment here. First of all, the worker feels that he is suffering an economic injury; secondly, his sense of justice is affronted; and thirdly, he is wounded in his self-esteem, since he has the conviction that he is being taken for a simpleton. A miner (case 38) tells us that a deliberate restriction of the output of coal is the miner's defence against a cutting of the piecework rate, "even when the rate is a favourable one to the worker". We note, however, that he complains of the way in which the rate is "dictatorially" fixed by a "high official".

It is obvious, however, that this reason for opposition to piecework rates likewise ceases to be valid in proportion as the workers win a larger measure of control over the management of industry, and in proportion as autocratic dictation of working conditions is replaced by democratic methods.

3. Disciplinary Subordination of the Worker

Levenstein, in the previously quoted book, in which he reports on a mass study of working-class mentality, comes to the conclusion that: "Only to the extent of securing a minimal subsistence is the worker interested in the material things of life. . . . What he finds most intolerable is his dependent position." The reports I collected fifteen years later from the students of the Frankfort Labour College confirm this impression. To put the matter

epigrammatically, we may say that the worker regards as his worst enemy, not the machine, but the boss. Among the causes of distaste for work, the social causes predominate over the technical; and among the social causes, the most important is the disciplinary subordination of the worker.

In the seventy-eight reports, thirty of the writers expressly declare that the pressure exercised on them by the hierarchy of the enterprise has been the main cause of their distaste for their work. It is true that many of them confine themselves to specific complaints regarding the inefficiency of their superiors, either on technical or on psychological grounds; but it is obvious that the expressed condemnation of individuals on such a scale is tantamount to a condemnation of the system which these individuals represent.

Resentment against superiors in the enterprise is not identical with the worker's social resentment against the capitalist, or with his resentment against the employer as an "exploiter". Characteristically, it is primarily directed against the immediate chief, the foreman, himself a wage earner, once described as a man who "crawls on his belly before the boss while trampling on those who are placed under his direction". This is analogous to what we find in army life, where the private usually hates the sergeant much more cordially than he hates the divisional commander. In many instances we are told in so many words in the reports that the higher members of the managerial staff and the actual employer are not such bad fellows after all; no doubt because they have shown themselves comparatively indifferent about trifling matters, and because they are usually better educated than the foreman and less rough and surly in their manners. We find, too, that the dislike of chiefs is especially

strong in public enterprises in which, although they are not run for profit, bureaucratisation and militarisation give the hierarchical system an especially despotic character.

It should be noted that not one of the writers ventures to declare that production could be properly carried on without some kind of disciplinary subordination of the worker. The supposition that reasonably intelligent workers hold the opposite view is confuted by the touching enthusiasm with which the reports extol the advantages of having a "good" chief, by which is meant one who is efficient, just, and animated with good will. But, we are told, the master must be in very truth a master, that is to say a man who is really the workman's superior in respect of craft knowledge and skill, and is at the same time fully competent to lead and to train men. Close examination shows that what the writers are really objecting to is some specific and unfavourable manifestation of hierarchical control, such as: *a.* parasitic bureaucracy; *b.* disciplinary authority exercised by persons who have not a corresponding responsibility for the technical organisation of the work; *c.* speeding-up or spying by foremen under the piecework system; *d.* incompetence. We always find that the ultimate cause of resentment against the disciplinary hierarchy, and especially against its lower-grade instruments, arises because it embodies, apart from the control technically necessary for the guidance of labour, also motives of private gain, on the one hand, and motives of social dominance, on the other. The latter cause of dissatisfaction is the more important of the two, as we see from the example of public enterprises, where discontent for this reason is widespread. Even in private capitalist enterprises, the fact that the chiefs represent the profit-making

interests of the employer confronts the workers in the form of a mortifying hierarchy of social power. This superior power is based on the propertyless condition of the worker, and on his dependence on the employer's will for his chances of gaining a livelihood. Its customary method of expression is the assertion of a claim to enhanced prestige on the part of all who exercise this disciplinary authority, and such a claim is usually made with especial crudeness and roughness by those who themselves stand on the lowest rungs of the hierarchical ladder. The nearer one set in authority over the workers himself stands to the workers in respect of origin, education, occupational capacity, and level of earnings, the more violently self-assertive will be the manifestations of his will-to-power, the more insistent will he be in the display of his authority, and the more sharply, therefore, will he come into conflict with the worker's sense of self-esteem.

This feeling of self-esteem is based on a sense of justice which on principle challenges the presupposition of the employer's authority. For social reasons, which are familiar enough, the worker regards it as unjust and immoral that he should be so completely dependent on the employer's will. This feeling of injustice becomes intensified where the claim to authority most directly and most frequently conflict with the worker's own voluntary impulses, namely, where the worker comes into contact with the foreman. When a State is hated or despised by its subjects, the policeman rather than the cabinet minister has to bear the brunt of this unpopularity, for he stands in a twofold respect nearer to the common people. His local duties compel him to interfere frequently in the daily life of his neighbours; and his own humble origin deprives his authority of the prestige of distance. The minister of State, who issues the orders,

inspires a far more genuine respect than does the poor devil in uniform who has to carry them out, himself usually underpaid, and subjected to a rigid discipline.

The worst feature of workshop discipline is that the disciplinary authority is exercised by a person or by a series of persons who also have to undertake technical and organisational guidance of the work. The mingling of productive discipline with social subordination is what poisons the present hierarchical system of enterprise. From the worker's standpoint, the worst symptom of this malady is that the foreman, his immediate chief, should be entrusted with the function of stimulating the underlings to increased production. In a democratic age, the authority exercised over a working community, like the authority exercised over any other community, can only be fruitful when it is based upon a voluntary subordination, is the outcome of trust and the consciousness of a joint aim. How can the worker have such feelings towards the foreman when the foreman seems to him the embodiment of an opposing acquisitive interest and of a social superiority which the worker regards as immoral?

From a humanitarian point of view, we have just as good reason to be sorry for the foreman as for the worker. Some of the reports tell us as much in plain terms. The foreman is in a false position, compelled as he is to serve two masters, to perform two tasks, the task of technical production and the task of maintaining social authority; and this has for him peculiarly unfortunate psychological consequences. These arise out of the principle of selection which underlies hierarchical promotion. If the choice were left to the workers, a man would secure appointment as foreman primarily because he excelled as a technician and as a teacher of the craft; the worker wants a man who is "master" in the medieval sense of

the term, an adviser, a teacher, a mediator, and a guide; one who stands for justice and fairness; one who is as keen to maintain the quality of the product and to ensure that the workers shall be contented, as he is to promote quantitative production. Such a foreman's authority is based on moral prestige.

The outlook of the employer or manager who delegates his authority to a foreman is, as a rule, a very different one. In large-scale industries, at any rate, especially in those characterised by extreme division of labour, he usually knows little about the craft competence of the worker he promotes to a foreman's job. What he wants is a "trusty" man, this meaning one whom he can regard as devoted to the profit-making aspect of the undertaking and fully convinced of the importance of maintaining the employer's authority. Another requisite—in Germany, at least—is apt to be the possession of an authoritarian manner, the quality which helps to secure a private his stripes. Now from the worker's point of view the foreman who fulfils these requisites is the most unsatisfactory one that can be found. We learn from many of the reports that work under a foreman with the ways of a drill sergeant is one of the conditions most fatal to joy in the occupation. The transference of many army officers, after the war, to commanding positions in industrial life, has created a peculiarly difficult problem in Germany. A miner refers sarcastically to "an unemployed army officer who has been turned loose in a mine"; and in like manner a shipwright speaks of having to work under a sometime naval officer who knows much more about issuing orders than he does about ships.

The unfavourable judgments concerning such persons in these reports are, to a considerable extent, judgments concerning a system. This system is an accompaniment

of production under private capitalist ownership; but it contains elements which are not immanent in this method of production, and are no wise serviceable to its proper economic aims. It rests on the psychological assumption that bureaucratic and quasi-military discipline is the best sort of discipline for an industrial enterprise. The capitalist economic order being granted, this assumption may be habitual or not according to the peculiar sociological historical environment and tradition. A comparison of German industry with American industry furnishes many proofs of this. In Germany, a country where (to quote Rathenau) authoritarianism has outlived its time, this condition creates a psychological problem whose solution can be found on another plane than that of property relations and of the distribution of the products of industrial labour. I have already pointed out that the evils of bureaucratisation and militarisation are even worse in State enterprises and municipal enterprises than in privately owned capitalist enterprises. Recent Russian experience, on the other hand, has shown that these evils, when rooted in folk psychology, can survive a revolution in property relations. The guild socialists of Great Britain have given more attention to these considerations than have the Marxian socialists of continental countries, where the psychological heritage of bureaucratic and militarist authoritarianism weighs most heavily on industry, and functions as one of the chief causes of distaste for work.

CHAPTER SIX

EXTRA-OCCUPATIONAL SOCIAL HINDRANCES AND INHIBITIONS

The matter touched on at the close of the last chapter leads us to problems lying outside the scope of the individual enterprise. The psychological difficulties of industrial life do not all originate within the framework of the industry. The relation of the worker to his work cannot be fully understood unless we take into account all the circumstances which determine a worker's psychological reactions. But a worker does not live only in the workshop. What he is there, depends largely upon influences that have acted on him elsewhere.

The frequently quoted example of the United States shows that, in cases where workshop conditions may seem to be very much the same, the reaction of the worker to these conditions may vary in accordance with general differences in class relations. To take one instance only, if the social conditions are of such a kind that the worker (no matter whether on account of economic realities or on account of socio-psychological traditions) does not regard himself as permanently condemned to a proletarian existence, his attitude towards his work will naturally be modified by this circumstance. He will lack the spur of resentment that arises out of the sense of being permanently relegated to a lower class. An American enterprise may seem as like to a European as you please, and the man who works in it may be ruthlessly exploited, nevertheless he will react in a very different way from the European worker if (as happens especially in the western, more recently colonised parts of America) he regards his employer as a social equal. For all that anyone can tell,

the two may change places tomorrow. The worker is not distinguished from the boss either by origin, or by speech, or by the conventions of social life. No sense of strangeness is aroused when the two sit down together at the same table and converse with one another on equal terms. At school, the children of both sit at the same bench; and at the university they join in the same organisations. When the worker travels by train, he sits beside the boss, for here too there are no class distinctions. He can make love to the boss's daughter without being cursed as an "impudent dog". It would never occur to him to take off his hat to the boss—or, for that matter, to any other mortal man. Naturally the American worker to whom this applies, has very different feelings from those which animate his European classmate. For the latter, the employer is a man belonging to a class apart, a class with well-marked social privileges; the employer's arrogant supremacy is decked out with and supported by the plunder in the hands of a quasi-feudal hierarchy of "birth and breeding".

To put the matter in other words, the social inferiority complex of the working class (which practically means the same thing that Marxian socialists usually describe with a more positive emphasis as proletarian class consciousness) colours the whole attitude of the worker to his work, but cannot be regarded as primarily or exclusively derived from workshop conditions. Three other factors have mainly to be taken into consideration: 1. his permanent allocation to a lower class; 2. the insecurity of his livelihood; 3. the conventional disparagement of manual labour.

Permanent allocation to a lower class, namely the proletariat, acts as a subjective mental state in contributing to produce the inferiority complex. It does not matter,

in this connexion, how great may be the chances for an individual worker to climb into a higher class; it does not matter what percentage of the workers can actually achieve this climb. In Europe, at any rate, the fact is that the average worker does not entertain thoughts of the possibilty of such an ascent. The mental attitude is what is psychologically determinative.

The individual worker's belief that he has no chance of ever becoming anything else, produces a feeling of inferiority that is as a rule all the stronger because it is supplemented by a conviction that his children will necessarily inherit this status. Very few European working-class parents can venture to hope that their children will succeed in achieving an independent position. The great number of the children, the cost of higher education, the need that young people should begin to contribute to the family earnings as soon as they leave the elementary school, the fact that the liberal professions rarely enable those who enter them to earn an adequate income until some years after the period of training has been completed, the social disadvantages suffered by those who lack "breeding" and the help of influential relatives, the absence of culturally stimulating factors in the domestic atmosphere of a working-class family, the difficulties attendant on mental work under bad housing conditions, and the perpetual pinching that is needed to pay for books and other necessaries for study—these are among the obstacles which, despite all theoretical recognition of the principle of equality of opportunity and of an open career for the talented, subject those born in the working class to a crushing handicap in the race for social ascent by way of higher education.

The barriers on other routes are even more formidable. An attempt to start an independent business career

without special training and special facilities, is almost always shipwrecked by the lack of capital. The natural and obvious line of ascent for the worker would, of course, be by promotion within the industry at which he works. In the early days of capitalism, a considerable number of talented industrial workers were able, in this way, to become independent employers, for the reason that, in those times, there was much more scope for the development of small-scale enterprises. Those times are over and done with. Large-scale enterprises, joint stock companies, under the aegis of financial capital, are dominant. The occupational hierarchy has been militarised. The management of enterprises has been bureaucratised, and itself subjected to the division of labour, so that a specialised theoretical training is demanded from applicants as an essential preliminary. Thus the possible road to promotion for the worker is usually barricaded just beyond the most subordinate posts of the occupational hierarchy; we find in industry, no less than in the army, that the gulf between the sergeant and the lieutenant is far less easy to bridge than the gulf between the private and the non-commissioned officer. Furthermore, those who occupy subordinate posts in the occupational hierarchy are most likely to come into frictional contact with the manual worker in the enterprise, so that on them will generally be concentrated the class resentment of the latter. In many of the workers who might otherwise be qualified for subaltern posts on the staff, this induces an almost insuperable spiritual inhibition; especially in view of the fact that these same subalterns, being largely responsible for the discipline of the enterprise, are themselves subjected to an especially severe and direct pressure from above. In the previous chapter we learned how the principle of selection works out in

appointment to such posts; how, in these underlings, authoritarian qualities are considered more important than occupational competence. Naturally, then, the most efficient among the workers will often be little inclined to earn more (and not very much more) at the cost of taking up a post which would involve cringing before superiors and being truculent towards inferiors.

The upshot is that there is only one important possibility of ascent, the transition from a manual to a more or less intellectual occupation as a clerk or some similar kind of salaried employee. That is the usual road which aspiring working-class parents endeavour to open for their children, above all because they think it will make the livelihood of these more secure. But the number of working-class aspirants for such posts is so large as to frustrate, generally speaking, the prospect of social ascent, and this for two reasons. Compared with the life of a clerk, the existence of the manual worker is comparatively free, comparatively adventurous and strenuous, and for this reason it is not the persons endowed with the most intelligence or strength of character who are likely to prefer the former to the latter. The mediocrity of the results of this "natural selection" is therefore usually conformable to the mediocrity of the aspirants' aims. In addition, this rush for places at office desks and behind shop counters depresses the standard of life of the black-coated proletariat to a level below that of many industrial workers. The bureaucratic principle of promotion by seniority, and the barbed-wire entanglement of a system hedged in by examinations and testimonials, make it still harder for the black-coated worker to lift himself above the level of a proletarian existence.

The result of all this is that for a considerable and growing number of workers, among whom are many of

the most intelligent and most energetic of their class, the winning of positions in the service of the labour movement is the best and shortest way of escaping proletarian life. From the point of view of industrial enterprise, this skims the cream off the working class; and from the outlook of the working class, it leads to the formation of a stratum which is superior in the sociological sense. The social and psychological consequences of these remarkable developments are too complicated to be discussed here. At least this much is plain, that they have no tendency to undermine class consciousness.

Passing now to consider the insecurity of the worker's livelihood, which takes the form of a perpetual risk of unemployment, we see that it is primarily rooted in general social conditions which are independent of the will of the managers of individual enterprises. Nevertheless it induces a sense of chronic anxiety and impotence, which has an unfavourable effect on the worker's attitude towards his occupational environment, and more especially towards the actual work he has to do. Devotion to a particular kind of work, the entering into a close spiritual relationship with that work, presents itself, therefore, to the worker as a dangerous temptation. The more effectually he withstands that temptation, the less will he suffer when the next crisis throws him out on to the pavement. In so far as he is dominated by such a feeling (and anxiety as to the possibility of unemployment is always lurking somewhere in his subconscious), he will avoid getting too much attached to his work. He will behave like a man of nomadic habits who has already been made wise by experience, and carefully avoids becoming too fond of environing persons and things, for he knows he will not be able to take them with him next time he makes a move.

Thus the system which refuses the worker the opportu-

nity of exerting any decisive influence on the permanency of his relations to a particular task and a particular working environment, thwarts his natural tendency to joy in work. I knew a cabinet-maker, a master in a small way of business, who was given notice to quit his workshop, and hanged himself in it on the last day of his tenancy. The wage worker knows that from day to day or from week to week he may be given the key of the street. That is why, under stress of a natural impulse towards spiritual self-protection, many of the promptings that would otherwise make him love his work and find delight in it, are transformed into a distaste and even a loathing for his occupation.

Finally there has to be considered as an accessory social cause of the industrial workers' distaste for their work, the conventional disparagement of manual labour. This disparagement influences the worker by suggestion, and tends to inhibit the instinct of self-assertion which seeks gratification in working activity. Such a general attitude towards manual labour is the socio-psychological expression of the fact that the performance of such labour is enforced by poverty, implies a position that is economically disadvantageous, and is the occupation of a class which for centuries was deprived of political rights, and which is down to this day looked upon as being of inferior social status. The consequences of this disparagement of manual labour have been discussed seriatim in the foregoing pages.

It would be futile to follow the example of those well-meaning philanthropists in various countries who carry on "propaganda" on behalf of a higher valuation of manual labour. No such simple method will suffice. Little will be achieved by dictating to children in the elementary schools essays about the beauty and dignity of manual labour, or

by ornamenting our public squares with the sculptures by Constantin Meunier romantically portraying the heroism of the workers' lives. Reality, sarcastically underlining the contrast between these artificial valuations and the actual judgments regarding manual labour that underlie our whole social order, is too near to those for whom such flattering unction is provided for them to be willing to close their eyes to the facts. They reject the proffered opiate.

There are concrete, institutional causes for the disparagement of manual labour and of those who perform it. Industrial work actually is burdensome, when it is done under stress of need, when it is enforced on social inferiors by social superiors; its performance actually is a mark of social inferiority when it is done by persons who may stand at the lowest grade of culture and intelligence without being unfitted for it; it actually is less intelligent than mental work when it is nothing more than the work of semi-automatised machine-slaves; the lot of the manual worker actually is one little to be envied when his work can provide him with nothing more than the barest subsistence, and when it leaves him the minimum of freedom and pleasure; it actually is debasing when it compels a man, under the lash of hunger, to obey a master in the choice of whom he has had no say, and over whose decision he has no influence; it is certainly anything but beautiful when it has to be carried on in hideous, gloomy, prison-like factories; it certainly is unhygienic when it exposes those who perform it to the risks of over-fatigue, occupational disease, and avoidable accidents; it unquestionably is dirty when the workers have to go home from their daily rounds blackened with grime, powdered with dust, or smeared with oil. In a word, manual labour reserved for a class occupying an inferior social status is, beyond question, disparaged.

As long as these things are so, propaganda of the before-mentioned kind is about as likely to be effective as would attempts to deprive the negroes in the United States of their sense of racial inferiority by distributing among them tracts assuring them that they had white skins. Social reality holds up before the blackavised proletarian a mirror in which he can see his own face clearly enough. His sense of social inferiority can only disappear in proportion as the concrete causes of that inferiority disappear. In so far as such a process occurs (thanks to improvement in technique, to the workers' increased will-to-power, and to the consequent growth of a keener sense of social responsibility among the employers), the workers win more self-respect, grow more fully aware of their human dignity, and have a livelier inclination towards pride in their work. What has to be done to promote the further course of this evolution towards its natural end, is plainly disclosed by the analysis of the causes of the proletarian's inferiority complex.

To what extent is the worker's attitude towards his work influenced by the social aggressiveness resulting from the class consciousness that is awakened by the realisation of this inferiority of status? How far can class consciousness promote, and how far is it likely to hinder, joy in work?

If the social inferiority resulting from the propertyless condition of the worker seems to the latter to be the inevitable and permanent lot of his class, then the sense of inferiority lacks the normal and obvious compensation of a belief in the possibility of a personal escape from such a situation. In that case, the unsatisfied sense of self-esteem seeks another outlet. The class on which an inferior status is forced by those who rule under the present system, then comes to identify its own cause with

a struggle for human dignity and social justice. The worker is thus able to esteem himself more highly by thinking more highly of his class. By "class consciousness", part of the social aggressiveness arising out of direct conflict of wills and interests, is transferred from concrete individual determinants and concrete individual beings to an impersonal whole, the "system", the social organisation in general.

In some of the workers whose mentality is tinged by this class ideology, the transference of affect just described has remarkable psychological influences upon their attitude towards their work, their occupational environment, and those set in authority over them in the enterprise. Such modifications become most obvious when we compare the mentality of the German workers who are strongly influenced by Marxism with that of the American trade unionists who have not "become class conscious".

In ordinary circumstances, the American worker has very little social aggressiveness. His subjective attitude towards his employer is akin to that of one man of business towards another. He is aware, of course, that there is a conflict of interests between the buyer and the seller of labour power; but as a rule, for him, that conflict is held in check by the predominant interest both parties have in the prosperity of the enterprise. But when a wage struggle is in progress, when the American workers' instincts of social pugnacity become active, there is apt to be a vigorous moralisation of affects and aims, for the dispute usually turns on questions of contractual obligations in which the notion of "fairness" is involved. The ethical principles to which an American worker appeals in such instances are not coloured by any class ideology; they are part of the traditional heritage of the nation, and find expression in biblical texts, popular maxims, and quota-

tions from the famous spokesmen of the national democracy. When an American worker believes that his adversary in the social struggle is behaving "unfairly", he is inspired by an even fiercer hatred than is felt by a German worker in similar circumstances; for in the United States the "unfair" employer is not excused as being representative of a "system", and his responsibility cannot be shifted on to the shoulders of any "class". Precisely because the American worker distinguishes sharply between "good" and "bad" employers, he shows exceptional strenuousness in his fight against the bad ones.

This ethic of the "ordinary man" likewise colours the permanent attitude of the American worker towards the problems of his daily environment. In comparison with the German worker, he has a much opener mind and a much sounder judgment as regards the personal merits and defects of his superiors, whom he looks on as individuals, and not as representatives of a system. This by no means signifies that he judges them less harshly. For the very reason that "superiors" and "inferiors" in industrial enterprise are in their personal relationships considered to be social equals, the American worker, though "not class conscious", takes exception to a great many things which a German worker swallows without winking. American workers who come to the continent of Europe and gain direct experience of working conditions there, are always astonished at the actual "subserviency" of the workers in the very countries where, as far as numbers are concerned, the labour movement is strongest, and where Marxian "class consciousness" is developed to an extreme. No American, for instance, would understand the passage I quoted on page 171 from the letter of a spinner (case 24); or the simple-hearted delight of the joiner (case 63) when his employer cordially clapped him

on the shoulder. One who, like the average German worker, considers on principle that all employers are bad, simply does not know what to make of it when he meets an employer who shows him a good side. "Class consciousness" easily induces a condition of rationalised hypertension, in which a relation to the concrete conditions of working-class life are lost. Under the promptings of unsophisticated instinct, the worker then often feels in a way very different from that which would correspond to his theoretical views. The naive readiness with which he is won over by a kindly gesture and with which he sheds tears on hearing a friendly word, the ease with which he ignores the contradiction between his social aggressiveness as far as theory is concerned and the humanitarian sentimentalism of his relations towards his social adversary, show to how great an extent the Marxism of the German worker is an intellectual construction, an edifice built up in the imagination as compensation for an inferiority complex, and how little it is an effective motive of individual practice. In the mouths of learned professors, in philosophical discussions, in theoretical literature, and (even at this late day) in the phraseology of political agitation, Marxism may still play its part; but in the atmosphere of actual working conditions it is unreal and anaemic, deriving as it does, historically, from an atmosphere so very different from that of the workshop.

These considerations explain why, in the reports, the attitude of the socialist workers towards their work is so much less influenced by Marxian class consciousness than might have been expected. Fifty-seven per cent of them declare that they find joy in their work, and only nineteen per cent that a feeling of distaste for work predominates! They are persons whose theoretical condemnation of the capitalist ordering of the world is unqualified in its

harshness; and yet when there is some trifling break in the monotony of their labour, some pitiful embellishment of their working environment, some slight alleviation of the pressure of workshop discipline, some inconspicuous hint of a feeling of human kindliness on the part of one of their chiefs—this fitful ray of the pale sunshine makes their whole inner world glow with happiness! They are fanatical advocates of a class consciousness which shall be common to all proletarians without distinction of craft, and yet when we read between the lines there peeps out everywhere a repressed inclination to occupational pride, and they seize at the first chance of telling us we are not to suppose their occupation to be less skilled than their neighbour's! They are irreconcilable champions of the class struggle, but they crave for opportunities to subordinate themselves to just and efficient superiors! They are orthodox believers in historical materialism, and yet they bubble over with gratification when their employer says a word or two to show them that he looks upon them as human beings like himself!

I can say with a good conscience that the facts disclosed in my investigation fill me with joy and hope. My interest in the problem of the industrial workers' distaste for their occupation is the outcome of an ardent desire to find some way by which toiling humanity can be freed from the doom of unmeaning and unpleasurable labour. I entered upon the study without preconceived opinions, but not without an aim—and my aim was rooted in the world of feeling. It was naturally an agreeable surprise to me to find that this investigation confirmed, nay emphasised, most of the theoretical views previously expressed by me in my book *The Psychology of Socialism* (the rooting of the problem in the domain of the psychology of instinct; the importance of the instinct of self-

assertion and of moral feeling; the increasingly skilled character of much modern machine-minding; etc.). I was even more pleased with the confirmation of my prognosis than with that of my diagnosis. For I had already been inclined to believe that none of the problems of the industrial workers' distaste for their occupation can be confined within the iron framework of the antinomy "man versus machine"; and that the acceptance of technical advance need not involve the renunciation of joy in work. I had been optimistic enough to expect that a favourable solution could be found, before I was in a position to see what that solution would be. I did not set out to prove a theory; and, indeed, the main purpose of my earlier books has been to discount the undue prestige of theoretical systematisation. I was animated by the wish to serve the cause of human beings with whom I feel united by sympathy and by a common longing for a better future.

Such being my attitude, the reader will readily understand that I was more pleased than not to find how comparatively small are unsatisfied needs of the masses, with what amazing ease their working instincts can be modified in order to be fitted to new working tasks, the tenacity with which they cling to the vestiges of their aforetime joy in work, and the adaptability they show in the search for new possibilities of gratification. It is easy for an intellectual, for one who regards himself as a person of culture, to look down with sarcastic superiority on those who seem to him too easily satisfied. But side by side with the perennially urgent question, how the "damnable unexactingness" of the masses can be overcome, there is a yet more urgent question, namely, how the extant needs can be better satisfied with the means actually available. If close examination shows that this

latter problem is easier to solve than we had supposed, not only because the available means are ampler but also because the needs are less extensive than we had supposed, we ought to be pleased because our fellows can win happiness more easily than had seemed likely, rather than disappointed because our own ideals remain unfulfilled. Besides, the fuller satisfaction of existing needs will take us a considerable step on the way towards the more distant goal of an increase in cultural needs; for it is an essential feature of mass psychology that higher needs can only arise when more elementary ones have been satisfied.

The main question is, not how we can make a homunculus, equipped with new qualities appropriate to our utmost desires. It is, rather, how to treat living human beings in such a way that their qualities will be enabled to develop as freely as possible in the way best calculated to promote their own happiness and the general welfare. The deeper we descend into the purgatory of capitalist industry, and the more keenly we become aware of the torment of joyless labour, the better pleased shall we be when we discover that there is a means of relieving these torments, that there is a way of escaping from this purgatory. But the path which leads out of it is only accessible to those who wish to tread that path; consequently, not our will, but theirs, must determine its course.

A study of the direction of this will, shows us that the social aspirations of the workers, even of the socialist workers, cannot be exhaustively summed up under the catchword "anti-capitalism". The old struggle for the rights of man, taking on a new form as a struggle for joy in work, has shifted the problem to some extent. In one sense the aim of this struggle falls short of the abolition of capitalism; in another sense, it is much more than this. It is less, in so far as many of the worst causes of the

workers' distaste for their work can be done away with even without an abolition of the capitalist profit-making economy; it is more, in so far as there are other causes, deeper causes, rooted rather in industrialism than in capitalism, and the task of overcoming these would still face an industrial socialist society. Thus the workers, as well as the employers, have still a good many problems of which they dream little in their present philosophy to solve—problems towards whose solution I have tried to give pointers.

Nothing more need be said to those who understand the significance of the questions discussed in this book. Those who lack a sympathetic understanding, will not be helped by the formulation of the most detailed programme in the world. Understanding is the first and last requisite. I do not mean to imply that there will necessarily be complete agreement of outlooks and wills among those who do understand. Such agreement is neither possible nor desirable, seeing that only from a conflict of thoughts and wills can arise the tension that makes life worth living, and enables us to believe that it has a purpose and undergoes a significant progress. But this tension can only be fruitful in proportion as its meaning is understood. Even in these days of overwhelming aggregate suffering and of enormously complicated social problems, life can, therefore, be worth living if only we can regard every problem which the epoch sets us, as setting us also a task to perform. How each one of us should devote himself to these tasks, is a matter for his individual capacities, and to be determined by the opportunities provided by his particular environment. But to each one of us who is able to understand, there is at least vouchsafed a possibility of enjoying the greatest happiness man can know—that of working to promote the happiness of others.

APPENDIX

Positive and Negative Factors affecting the Worker's Attitude towards his Work.

Impulse to Joy in Work (+)	Hindrances and Inhibitions [1] (−)
I. Primary Motives	I. Technical Hindrances and Inhibitions
1. Instinct of Activity	1. Detail Work.[2]
2. Instinct of Play	2. Repetitive Work *a.* Monotony of Motion *b.* Reduction of Initiative *c.* Slackening of Attention *d.* Hypnotic Effects of Rhythm
3. Constructive Instinct	3. Fatigue
4. Instinct of Curiosity	4. Unfavourable Technical Contions
5. Instinct of Self-Assertion	
6. Possessive Instinct	
7. Combative Instinct	
II. Accessory Motives	II. Intra-Occupational Social Hindrances and Inhibitions
1. Herd Instinct.	1. Dissatisfaction with Working Conditions
2. Longing for Mastery and Need for Subordination	2. Unjust Wage Systems
3. Aesthetic Gratification	3. Disciplinary Subordination of the Worker
4. Considerations of Self-Interest	
5. Considerations of Social Advantage	
III. Sense of Social Obligation	III. Extra-Occupational Social Hindrances and Inhibitions
	1. Permanent Allocation to a Lower Class
	2. Insecurity of Livelihood
	3. Conventional Disparagement of Manual Labour

For Notes, see overleaf.

1. In the German original the same word *Hemmung* is used to convey the ideas conveyed in English by "hindrance" (objective) and "inhibition" (subjective). To some extent, even in English, the line is hard to draw, and to that extent, therefore, the terms "hindrance" and "inhibition" become interchangeable. At times the notion of an objective *Hemmung* may be more conveniently rendered by the word "obstacle".—TRANSLATORS' NOTE.

2. The German words *Teilarbeit*, *Teilarbeiter*, *Teilprocess*, and *Teilprodukt* are not easy tot ranslate. In this book we adhere to the terms used by us in a new translation of Marx's *Capital* (Vol. I), Allen and Unwin, London 1928. There we have generally spoken of "detail work" and the "detail worker", of a "partial operation" and a "partial product"—though perfect consistency may not have been secured. If the reader will bear in mind that the reference is to the modern system of the division of labour which began with the rise of the manufacturing system, and that "detail work" is performed by the "detail worker" under the auspices of that system, the meaning of the terms will be clear to him. He will understand that "detail work" is work which, instead of producing a finished product by a series of operations performed by one and the same worker, continually repeats the processes needed for the completion of one phase only of the work of production.—TRANSLATORS' NOTE.

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